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EDUCATION IN THE BOMBAY PRESIDENCY.

We congratulate the Bombay Educational Department on the early publication of its Report for the last official year. It is in every way advantageous to review the educational history of a Province soon after the expiry of the year to which the Report refers, and we trust that the example set by the Western Presidency in the matter of publication of the Educational Report will be followed in other Provinces. If the late communication of the Reports to the press is due to the delay in the reviewing of them by the respective Local Governments it is desirable that the Reports, as presented by the Directors of Public Instruction themselves, should be communicated first to the Press, to be followed by the Government orders on them. If this plan is had recourse to the Reports of the different Provinces will be before the public before December every year, that is within nine months after the expiry of the year to which the Reports refer, which is itself a sufficiently long time to wait.

From a statistical point of view the year under review does not seem to have been very satisfactory. A striking feature in the history of the year which ended on 31st March 1895, was a slight decrease in the number of public institutions,—from 9,939 to 9,871, but this decrease does not appear to have affected the attendance in any way, which advanced from 594,510 to 607,806. This is encouraging as indicating greater consolidation and concentration in existing public schools. One remarkable feature of public schools in the Bombay Presidency is the comparatively large attendance of pupils in them. Roughly speaking twice as many pupils attend a public school in Bombay as in Madras. There is still a large number of indigenous schools in the Presidency. These schools are not recognised by the Department, nor are they subject to Government inspection, and hence the quality of instruction given in them is very unsatisfactory. It is hoped that strenuous efforts are being made to bring these schools under Departmental influence.

We regret that particulars regarding pupils according to race are not given in such detail as in the Madras Reports. It would be interesting to know whether, as in the Madras Presidency, higher collegiate education is chiefly confined to Brahmins, and how the enterprizing Parsee community stand in comparison with Brahmins in the matter of University education. In the Government Order reviewing the Report reference is made to the backward condition of the Mahomedan community. Though the total number of Mahomedan pupils undergoing instruction (135,390) is not disproportionately small as compared with 383,426 Hindu pupils, still of the former only 58 were undergoing University education and only 2,490 were attending Secondary schools. The greater majority of the Mahomedan pupils were in indigenous Koran schools. The Bombay Government has not as yet taken any special steps to improve the educational conditions of the depressed and down-trodden classes. The example set by the Madras Government in this respect will, it is hoped, be followed in other provinces.

The demands of University education in the Presidency are met by 9 Arts Colleges and 4 Professional Colleges. Among the Arts Colleges, the Wilson College, maintained by the Free Church of Scotland, is the largest, containing 414 pupils. Next comes the Fergusson College, an aided institution, managed by a native community. The history of this remarkable institution is encouraging

as indicating the success that is likely to attend native effort in the matter of collegiate education, provided it is put forth in the spirit of self-sacrifice and disinterested regard for the good of the country which has characterized those who have had to do with the development of the Fergusson College. Of the 9 colleges, only 2 are Government institutions, 5 are aided and 2 are maintained by Native States. The cost of educating each scholar in the Fergusson College amounts to only Rs. 51 per annum. In the Wilson College it is Rs. 146 per scholar and in the Elphinstone and Deccan Colleges, both Government institutions, Rs. 410 and Rs. 580 respectively. There are two Law Schools or Colleges maintained by Government, and two by private bodies. Besides these there is the Grant Medical College in Bombay and the College of Science in Poona corresponding to the Madras College of Engineering. The Poona College of Science costs Government Rs. 60,000 nearly, the cost per scholar amounting to Rs. 965 per annum. A very large number of the secondary schools in this Presidency, and almost all the secondary schools for girls, are under private management. In primary education also the Government of Bombay takes little or no direct part.

Agencies.	No. of Schools.	No. of Pupils.
Government ...	11	1,342
Local Boards ...	4,010	235,011
Municipal Boards ...	550	74,984
Native States ...	1,996	117,716
Aided ...	2,009	75,865
Unaided ...	60	2,648
Total...	8,636	507,566

The statement in the margin gives the number of schools and pupils distributed according to the different agencies. The very large share taken by Local Boards in the management of Primary Schools is noteworthy. It is a matter for regret that no special chapter is devoted to female education, though the general instructions given by the Government of India for the preparation of the Public Instruction Reports require that this should be done.

Bombay is still behind Madras in the matter of provision for the training of teachers. There is no institution for the training of collegiate teachers like the Teachers' College, Saidapet, and the eight Normal Schools for Masters and the ten Normal Schools for Mistresses seem to contrast very unfavourably with 54 Training Schools for Masters and 17 Training Schools for Mistresses in the

Madras Presidency. There is a School of Arts in Bombay but it is not so large as the Madras School of Arts, which contains nearly twice the number of pupils as in the sister institution. There are 18 Industrial Schools with an attendance of 1,048 pupils. There seems to be no institution in Bombay corresponding to the College of Agriculture, Madras, though there is a Veterinary College with 50 pupils and 3 Agricultural classes in different parts of the Presidency. Drawing is compulsory in a large number of schools.

A few particulars regarding the finance of education may not be out of place here. The total expenditure on education for the year 1894-95 was Rs. 69,79,691. The total expenditure on education in the Madras Presidency for the year 1893-94 was Rs. 61,44,736. When it is remembered that the number of pupils receiving instruction in the Madras Presidency in schools of all classes is much greater than the number of pupils in the Western Presidency, we cannot but draw the conclusion that education is cheaper in this Presidency. The table in the margin is interesting as comparing the percentages of the total expenditure on education met from the two Provinces from different funds. The larger proportion of the expenditure met from fees in the Madras Presidency is noteworthy. Particulars relating to grants-in-aid are not given in detail in the Bombay report, but it is mentioned in para. 7, that a sum of Rs. 1,16,588 was spent on building grants from Provincial Funds. This amount, we believe, is very much larger than the Madras Government has spent for a similar purpose.

——	Madras.	Bombay.
Provincial Funds ...	30·80	29·9
Local Funds ...	13·42	14·3
Municipal Funds ...	3·60	5·5
Fees	28·48	21·8
Native State Revenue	......	13·3
Other sources ...	23·70	15·2

Taking all things into consideration we cannot help thinking that the year under review has been one of steady progress, creditable to Mr. Chatfield, the Director of Public Instruction, and the various educational officers and agencies concerned.

THE TEACHING OF GEOGRAPHY IN OUR SCHOOLS.

By A. Perianayakam, B.A.

That Geography is taught in our schools with an unpardonable indifference cannot be denied. There is little doubt that this indifference is mainly due to the fact that even in England the attention it deserves is not given to it. The study of Geography is not the interesting study of a science but is a study of names and nothing but names. Where does the evil lie? It lies in the very methods we employ as auxiliaries in teaching the subject. There are now two such methods in use: *viz.*, (1) the Kindergarten system, (2) the use of maps. I shall offer a few remarks here on both these methods with a view to an improvement of the teaching of Geography in our schools particularly in the Primary Department.

Thanks are due to Frœbel who laid the infant world under a great obligation when he reduced the Kindergarten principles to an almost perfect system. But it is a matter for regret that this admirable system is used only in the primary course and is allowed to contain germs of 'cram' which ought to be eliminated. It must be admitted that teaching, however elaborate its method may be, cannot but contain things arbitrary. There is no more reason to call A, A than to call it B. There is no more reason to call a tree, tree than to call it 'tank.' The best that we can do, then, is only to reduce the number or amount of arbitrary associations. The Kindergarten system seeks 'to develop the faculties and lay the foundation of subsequent and more elaborated education without bringing any undue strain upon the young mind.' This is sought to be attained 'by encouragement, by easy tasks, by sympathy, by games and songs.' Some foundation is laid, no doubt, this way. But I am inclined to think that the foundation is a foundation on sand and that the Kindergarten system, as it is, has not succeeded in decreasing the strain enough, and that the extent of its usefulness may be considerably increased. The system professes to teach pupils up to the age of eight. Can we not after this age combine instruction with active exercise and incessant movement? Are games, songs and dances the only instruments that will at once amuse and instruct? Is it not possible to devise exercises calculated to bring out the faculties of a pupil into fair play beside the plaiting and weaving of paper? Do we exhaust all the gifts in our power with balls, cylinders and cubes? It looks almost like a freak of nature to awaken the faculty to perceive the concrete, the

thing, the visible, and then suddenly to turn back to the abstract, the name, and the visible, before the mind has hardly advanced one step in the way it should go. The first lessons on Geography are supposed to be taught by the aid of the Kindergarten system. "The division of land and water, the mouth of a river, the hill, the mountain and the plain," we are advised by a Kindergarten writer, may be taught by a variety of arrangement with bricks; "the division of land and water may be exhibited by the bricks being arranged to represent the land and the table the sea; a few blocks piled up, somewhat irregularly or in the form of a pyramid may be allowed to stand for a hill; a plain needs no particular representation as the flat surface of the table is a sufficient contrast to the blocks for this purpose. Islands may be represented by an irregular pile or piles of blocks in the middle of the table; an isthmus by a narrow line of bricks." This is outrageous. Never has illustration been so unfortunate. Is this entering into the mind of the pupil? Is this bringing the master to the level of the boys? If there be any such bringing down, it is certainly not in the teaching but in the exhibition of blocks only. True, the boys shew much interest and delight. Does this interest and delight spring from an intelligent understanding of the subject taught or from the mere sight of bricks on the table? I rather presume to say, from the latter. Remove the blocks, remove the table and you will find you have removed all the effects of your lesson. Restore the table, restore the blocks and you have not restored any instruction. The reason is that the very manipulation of bricks to represent a variety of objects in succession is by itself an inexhaustible source of pleasure to young children. One may in this way cause many smiles and perhaps impart some instruction too. But instruction is imparted only by repetition, which represents an arbitrary method of teaching, the table and the blocks serve only to conceal and embellish the dry method within. Where, then, does the mistake lie? In the first place the same bricks and table are used to represent in succession a hill, a plain, land, water and several other things besides. This weakens, if not destroys, the certainty of the association. The brick must be made to represent only a single object or allied objects; so that when the idea of a brick is called up the idea of the single object it has been made to represent is called up also. But when the same bricks are used to represent different things, a multitude of impressions are recalled and the pupil hesitates what to choose from this chaotic mass. In the second place the things taken to represent geographical objects must be those belonging to nature. A brick may be thought of, with some stretch of imagination, as representing a house. This sort of representation constantly reminds

me of the story of the man who wishing to sell his house sent round the street a bit of a tile as a specimen. Just consider boys and girls how they play. At the sight of sand they fall to building 'houses.' Sand heaped in straight lines represent the wall; gaps in the line of sand doorways; pieces of stick door-posts; small plants pulled up by the root and transplanted, the garden. A cock is represented by a feather and is made to crow by proxy. A piece of chatty and a few light sticks represent the pot and the oven. It is very amusing and scarcely less instructive to see the sheep is represented by the curved rim of a broken pot. Why? The curved rim represents the huge twisted horns of the ram and then part is put for the whole. In one word, all the objects used by children are allied to those they are made to stand for. Here is then something for the teacher of the infant well worthy of imitation. What hinders us from basing the operations of teaching on things for which children have a natural and instinctive liking? Is there not much reason to say that the Kindergarten in all his glory has not bestowed a gift like one of these little ones? I cannot understand the propriety of making bricks represent the sea and the mountain. Why should we not use sand to represent the sea-shore and stones to represent the mountain? The Kindergarten teacher should not only forsake names for things but must forsake them for things that can be naturally and intelligently associated with the objects they are intended to illustrate. He will do well to remember always that only objects of nature must be made to represent objects of nature. Nor does the use of maps help the boys much to an intelligent study particularly in the primary course. Instead of being a help it is a great hindrance. We have lost sight of its defects because they are defects of long ago and the dazzling colors and lines of beauty have more than compensated for the loss in other directions. Let me once more in memory live the life of a school boy. Let me picture to myself standing amidst a group of infants whose eager faces are directed towards the map—the first map they have ever seen in their lifetime. I am not far wrong when I say the criticism of their tiny brains was something like this after they had exhausted their praises on the beauty of the map.

"What did the teacher say about the top of the map?"

"The top of the map is north."

"I cannot understand this."

"Certainly not. If you hang it up by the bottom, the bottom will be 'north.' If you hang it up by the side, the side will become the top and will be 'north.'

"After all it is easy. Any side may become 'north' in turn. Only

you will not have rings to tie it up any other way. So the top only will be always 'north.'

"But the carpenter can make it just as he likes."

"If the world hangs in space like our map, I fear the wind will, one day or other blow us all away."

"Before that happens the insects will make an end of it."

"There is not a single drop of water in the river."

"It is very hot, you know; moreover, if there be water the rivers will flow downwards."

"Exactly. When I bathe water flows down my head. Here the river has to go up."

"Nor is there any sand."

"The mountains have neither rocks nor clouds."

"Oh, then, the tiger will kill us all."

"Have you seen anywhere the soil having such beautiful colors?"

"Don't you know, 'White sand and grey sand, who will buy my——.'"

"I like India. It has a beautiful red color."

"I like England. It has a beautiful color too."

"I don't like Russia; it is not red."

"I like France better than Russia."

Russia is lovely neither on the map nor in reality.

Though coloring makes the map attractive it does so at the expense of creating prejudice in favour of some, and against other countries. Who can say that the contempt for a country excited by such a simple thing as this will not pave the way for a permanent and deep-seated national rancour and hatred? Who will deny that the habits of a nation are not partly at least formed at school?

It may be said that these difficulties are only imaginary and that we never remember when we felt such exaggerated difficulties. Some may honestly say so. But these difficulties ceased to be difficulties long ago and it is very hard to bring them now before the mind with any degree of exactness. Besides by frequent repetition they have become natural by assimilation. If this system of teaching be defended we may also defend the system of teaching the alphabet which I was much amused to find in a village school some years ago, and which represents an extreme case of teaching by repetition. According to this the boys were made to imitate the teacher or the monitor, singing a sort of chorus as they wrote with their fingers on sand. As a specimen I will give here how the boys were taught to write the letter ட (da).

Leader. All my cómràdes write dòwn dá—a—a.

The rest. Dá dà, dá dà, dá dà, dá—a—a.
Leader. Tell me, comrades, what it i—i—is.
The rest. Da da, da da, da da, da—a—a.
Leader. Tell me once more what it i—i—is.
The rest. Da da, da da, da da, da—a—a.
Leader. Tell me once more what it i—i—is.
The rest. Da da, da da, da da, da—a—a.
All. Dá dà, dà dá, dá dà, dá dà, dà—a—a.

There was no complaint here; no shrinking; no strain on the mind. Every letter was passed through this musical drill. There was something for the ear; something for the finger; something for the eye. As a system of teaching by slow and easy repetition this is admirable. Yet who will now-a-days think seriously of introducing this into the school curriculum? Take the brick and table illustration. The teacher announces that he is going to give a lesson on 'land and sea' and makes a figure with the bricks on the table. What is the most natural question the pupils may ask? Which is land and which the sea? This shews that there is no more reason to call one side of it 'land' than there is for calling the other side 'sea.' It would seem that in spite of all our delicate appliances there is no escape from a doubtful, arbitrary and unsatisfactory method. But if you adopt, on the other hand, the principle of '*natural objects to illustrate the objects of nature*' what happens? The gifts are simple; a small hollow in front of the school-room and some water. The time wasted in framing questions suited to the psychological conditions of the little brains and in eliciting answers according to studied forms may be more profitably spent in digging hollows and pouring water. The boys themselves may be made to become the givers of 'gifts' and they will, no doubt, throw themselves into the work with no small degree of enthusiasm. Without any question on the part of the pupil, without one word of explanation on the part of the teacher, without any repetition whatever, instruction is imparted. It comes upon them with the force of an axiomatic truth. There is no limit to the degree to which the system of *natural objects to represent objects of nature* can be carried. Take another example: A master wishing to teach the points of the compass puts a question, 'Who can tell me where the sun sets?' The boys will reply by pointing in a certain direction. 'This,' says the teacher, 'is the west, remember the sun-rising direction is called the east.' 'East' and 'west,' we know, are conventional terms and therefore they must be learnt arbitrarily. Directly the teacher hangs up the map, say, on the northern wall of the school-room he calls the attention of the children to 'east' and 'west.' The east of the map becomes the west of the village and the west of the map the east of the

village. Some boy will start up and say, 'Mamma says the church is in the east but this map says it is west.' The teacher will say, 'Do not confound, children, the directions of the map with those of the village. You will do well to remember the top of the map is north, the bottom south, the right east and the left west' or will hang up the map on the northern wall of the school in order to make the directions of the map and the village correspond. Still the difficulty of the 'top' being 'north' confronts the pupils. The 'top' of the steeple, the tops of trees and houses may be imagined to be in the north. Very likely the pupils will imagine their heads to be in the 'north.' Matters can be mended only by stretching the map on the floor with the directions of the map corresponding with those of the village. But this is most inconvenient, though the boys will derive no small benefit by way of physical exercise, when they bend their supple bodies half-way over the map in pointing.

To sum up:

(1) *The Kindergarten system is defective.* (*a*) Natural objects must be chosen as 'gifts' to represent objects of nature.

(2) *Teaching by maps is also defective.* (*a*) Except the small amount of motion necessary for pointing out places, the map has no active movement to combine with instruction. (*b*) The impression made by the map can never be so clear as that produced by real objects. (*c*) All the objects lie on the same plane. (*d*) It fails to produce any adequate impression as to the relative sizes of towns, rivers, &c., the relative heights of mountains, the productions, manufactures and population. There is no clue to the study of animals, birds and reptiles; of the trees that form the jungles of a country or line its roads; of the herb yielding seed; of the fruit-tree yielding fruit after his kind; of the fish that tenant the seas, lakes and rivers; of the stately towers that adorn the towns; of the railways and the telegraph and a hundred other things. (*e*) It utterly fails also to give a clear and satisfactory answer to some of the most natural questions of an infant, such as the following. Are there wild animals in the sea? Is the sea larger than our well? Do bandies go over the sea? What does a mountain look like?

(3). *The map is misleading.* (*a*) It produces a confusion when the directions are learnt. (*b*) It makes the pupils think the colors of the map correspond to those of the soil and expect color where there is no color. (*d*) Rivers are made to defy the laws of gravitation.

(4). *The use of the map is mischievous.* (*a*) It induces in the pupils the dangerous habit of liking and loving the people of gay-colored countries and despising those of other countries. By the principle of 'Love me, love my dog,' this lays the foundation of national bias. (*b*) It

makes it easy for the pupil, in later stages to make the rivers, in drawing, 'stop short of the sea or cross one another or run over mountain ranges.'

From all this I conclude that (1) the Kindergarten system may be considerably improved and (2) that the use of maps in the primary classes in particular is not only cumbersome but also, in some cases, positively injurious.

TEACHING UNIVERSITIES.

By T. Vijayaraghavan, B. A.

One of the latest educational theories that have attained to the dignity and undisputed authority of commonplaces is the need for what are known as "Teaching" Universities in India. The popularity of this notion has been attributed, and undoubtedly with some truth, to the agitation for converting the existing University of London into one of the teaching type. We have all been told that the Indian Universities are modelled on that of London, and this statement might for the time being be accepted, though rather important qualifications have to be made before it can be regarded as any strict approximation to the truth. Therefore any proposals to alter radically the constitution of the University of London must naturally raise questions as to the advisability of its Indian daughters following suit. But we believe that there are deeper reasons which account for the hold this notion has obtained on the educational mind of India. The demand for Teaching Universities is the expression of the deep dissatisfaction with the results of higher educational work in this country during the last two decades. Great were the expectations formed from a spread of the study of English learning and science in India; we catch some of the enthusiasm of that early time in the confident tones of Macaulay; great indeed have been the results; but great enough they have not been to satisfy the enthusiasts. No literature teeming in bold, original speculation, no science boasting of valuable researches, have crowned their efforts. In their disappointment they have laid their hands on the Indian University system and found in it the cause of all this shortcoming. And when the cause was found, the remedy was easy. The road to intellectual betterment lay through the foundation of Teaching Universities. Nobody has stopped to inquire whether the complaint was just, whether the hopes were not pitched too high, and whether better results might be attained even if Oxford and Cambridge were transplanted bodily to the Indian soil.

Intellectual originality,—genius is only a name for a high degree of it,—is not to be caught by departmental orders or Teaching Universities: the wind bloweth where it listeth and is not to be trapped by any number of Æolus-bags made to order. The great poets of England were not nursed in Oxford and Cambridge; at any rate they did not take kindly to the nursing; if they were great poets, it was not because of their *alma mater*, but in spite of it. Carlyle's saying still holds good; "the unregulated (studies) did more for them than the regulated." As for the great scientists, it is a matter of notoriety that they were bred outside their walls.

In the haste to reform, the good points of the existing University of London are apt to be forgotten. In the orthodox indignation for the "crammer" and the "coach" one is apt to forget the service it has done by setting up high standards for its degrees and maintaining them with a severe consistency to which a University composed largely of a professorial element is a stranger. We in Madras are not quite unaccustomed to witness a reduction of the prescribed standard of merit in years when there has been more than the usual "slaughter of the innocents." In Calcutta they seem to carry things farther. Two candidates for the B. A. degree of last year were first declared to have failed: "but the candidates were students of the Presidency College, and had influence" (we quote the words of the Bengal correspondent of the local educational journal); they produced certificates from the Professors, and the Syndicate, moved the Board of Examiners to "reconsider," and the two candidates were passed. In another northern University the Queen's Jubilee brought with it a liberation of prisoners and a "passing" of "failed" candidates. Another service which the London University has rendered to the nation is the opportunity it has afforded its poorer members to pursue the severe studies of a University and win its rewards. In a democratic age, and we might add in a poor country like India, it is a question for consideration whether such Universities have not after all a service to perform, and it might be doubted whether they are such an "unclean thing" and an abomination as the guardians of educational orthodoxy profess. We have all of course read Matthew Arnold's eulogium on Oxford as the home of "lost causes and forsaken beliefs" and might admit that its "charm" and "romance" lie in its opposition to the spirit of the age, or as he himself would put it, in the continual warfare it rages with the Philistines. But no University teaching or examining, created by an Act of Incorporation of the Government of India, can possess the charm that Oxford inherits from the Middle Ages.

The truth is when people talk of the advantages that would flow from establishing Teaching Universities in India their ideas revert back naturally to Oxford and Cambridge where they themselves have been nurtured. But the influence these exert on the youth of England is chiefly due to their illustrious and romantic associations and these, as we have already shown, cannot be secured in Madras or Calcutta by any University, however beautifully organised. Another advantage claimed for Teaching Universities is the opportunity they afford for the youth of the land to meet together. Our Madras Colleges, such as the Christian or the Presidency, drawing their students from almost every district of the Presidency of Madras fulfil such a function, and if the collision of mind with mind kindles no fire, no blame to the agency that brings about the collision. In fact the conclusion seems irresistible that this talk about Teaching Universities is after all a mere dispute about names. If, say, the Presidency College were to-morrow invested with the right of conferring degrees,it would be as flourishing a Teaching University as any could wish. The difference would be that its degrees being granted by Professors to their own students might depreciate in the academical market. This danger our present system avoids by appointing an external Board of Examiners to test the students of the colleges and this board goes by the name of the Madras University—we need scarcely remark that the Fellows are supposed to delegate their functions as examiners to persons they think fit. So any real improvement in education must proceed by way of the colleges, which after all must determine the character of the University.

CIVILIZATION AND POETRY.

The poetic instinct has existed in all ages. The smallest knowledge of human nature will convince any thinking man that this is the case and the slightest acquaintance with ancient, mediæval and modern Literature will conclusively demonstrate the fact. The poetic faculty has existed always and will ever exist; it is confined to no age, no country, no class or race of men, and in all times this faculty has asserted itself in that kind of writing which we technically term "Poetry." There have been poets among the ancient Norsemen and the classic Greeks, among the learned Egyptians and the airy Italians, poets have sprung from the ranks of the learned and the humble throng of the uneducated. These facts are so universally recognised that it would be superfluous to

advance proof of them. We may at once accept them as the basis on which to found a brief consideration of what has been the development of this universal poetic instinct.

No one can be in any degree conversant with the poetic writings of ancient and later days without becoming aware that where the true poetic instinct has always existed it has always been peculiarly open to receive the impress of the spirit of the age in which the possessor of it lived. From the nature of the case this must be so. The poet is the concrete embodiment of the highest, the most *spirituelle* influences of his time. His is the nature which from its capacity to assimilate itself to the lofty, seizes on all that is lofty, noble, and exalted, in the thought and feeling of his age, and hence this is the being most readily and most powerfully influenced by the tone of that age. Thus we find that the poetry of one age differs from that of another in proportion to the different degree of culture, moral, mental and even physical, which characterizes the different ages in which it is produced. If this be the case, it is certain that a very powerful influence must be exerted on the poetry of succeeding ages by the progress of civilization through those ages. For let us consider a moment what it is that we mean by "civilization."

We can scarcely admit that the highest degree of civilization can exist where any side of human nature is to any extent warped or depraved or even where a depressing influence is voluntarily permitted to exercise its power. Hence of two nations equal in wealth, learning, love of art, and all other refinements, if one should continue to uphold the practice of slavery and to countenance the pleasure of vicious and licentious practices, while the other repressed and discountenanced all such blots on the national character, the latter must certainly be held to have reached a higher stage of civilization than the former. In what then does the highest civilization consist? Surely in the highest civilization of all the faculties of human nature, in other words, in the production of the most perfect men—perfect in their moral, mental and physical faculties.

This being our definition of civilization, where shall we find the most civilized age or race? Will it be in the joyous halls of Greece or Rome, among the splendid fanes of ancient Egypt or the mighty palaces of fallen Babylon? The mental life of Greece and Rome, Egypt and Babylon truly was one of a very high degree of culture and their physical development perhaps was as great, but not so the cultivation of their moral faculties. The mythologies of these ancient races were beautiful and suggestive in the extreme but they lack the purity which a national religion must possess, if it is to be the means of raising the moral tone of a nation to the highest pitch. This then is the fatal flaw in the civili-

zation of all the ancient races, their moral nature was not perfectly developed. But since it is vain to expect even in the highest conceivable type of humanity any close approach to moral perfection, we can never hope to attain to the highest possible pitch of civilization. Still, when we compare the morality of the present age with that of the palmy days of past ages we are forced to conclude that some progress has been made towards the attainment of an ideal civilization ; slavery is now no longer tolerated, licentious religious festivals are things of the past, and though still far enough from the goal of perfection we cannot help seeing in the civilization of to-day some real advance on that of former ages. This conclusion, moreover, is what from the nature of the subtle influences which we call civilization, we should be led to expect, and we may accept it as a fact that the nineteenth century is a more civilized period than any which has preceded in the whole history of the world. Let us therefore now consider what has been the influence of this progress on the poetic instinct of the human race as exemplified in written poetry especially in the West.

We find that the chief modes of expression in which this instinct has continually manifested itself have not greatly altered. In ancient times—and in speaking of "ancient times" we need not go further back than the literature of Greece and Rome since we take this to be the highest expression of the thought of the centuries preceding the Christian era—we find that poets have expressed their thoughts, feelings and emotions in three different ways, the Dramatic, the Epic and the Lyric, and in later days though variations in treatment have been introduced, the same modes of expression have constantly been resorted to ; we must therefore consider what has been the influence of civilization on Dramatic, Epic and Lyric poetry.

The influence of civilization has made itself felt in three directions. First, on the style of thought and even on the nature of the poets themselves ; secondly, in their subjects ; and thirdly, in their mode of treatment of their subjects.

First then as to the writers of Poetry themselves, taking the chief Dramatic poets of ancient and of modern days, we find ourselves confronted with the overpowering names of Æschylus, Euripides, Sophocles, Aristophanes and Plautus as compared with Shakespeare, Moliere, Goethe, Browning and Tennyson. Nor must we omit from the list the glorious name of the gentle author of the Faery Queene, for Spenser's great work, though it partakes of the character of Allegory to a greater extent perhaps than those of other modern poets, is essentially dramatic in its nature. In Epic poetry, we may select as typical poets Homer and

Virgil, Milton, Dante and Scott while Lyric song finds representatives in such musical souls as Ovid and Horace, Milton, Shelley, Wordsworth, Browning, Cowper, Mrs. Proctor, Mrs. Browning and Jean Ingelow. Now looking at the nature of these writers as expressed in their poems let us inquire what has been the influence of civilization on poets.

Time and space would fail us to enter minutely into an examination of all or even of a little part of their productions; we can only now deal with the general moulds of thought. In the first—the Dramatic class, we have to deal with the minds of ancient poets, Æschylus, Euripides and Sophocles and contrasting them with those of the later Dramatic poets whom we have selected as typical we cannot fail to see that the chief difference lies in this—that the ancients were more Ideal—the modern more Real. In ancient drama, we find no realistic tracings of the development of man's natures such as we find in Shakespeare's masterpieces, no minute analysis of the gradual unfolding and forming of great and noble thoughts and lives as in Robert Browning's writings, none of the tender touches of Tennyson, none of the telling moral sarcasm of Moliere. We do not contend that gleanings of the characterestics of one age are not to be found in the other but it is clear that the Dramatic poets of ancient days were chiefly concerned to impart moral teaching by the selection of Ideal subjects while the modern, though not less general and capable of universal application, comes more "home to the bosoms and business of men."

Dealing next with the influence of civilization on the minds of Epic poets what do we find? Here the case is somewhat different. Homer and Virgil deal with the lives and adventures of Ulysses and Æneas, with heroes and men, Milton and Dante with creations of their own imaginations. But yet the characteristic tone is perceptible in each class of writers. Who can read the Paradise Lost or the Inferno without feeling that the mind of the poet was working on subjects which to him were very real for all mankind; while at least Ulysses and Æneas were but shadowy creations, impossible men, doubtless with a meaning, but a meaning, which the poet preferred to convey rather through the medium of myths believed by only a portion of the devotees of their day and utterly discredited by the rest of the world?

Again with Lyric poets, the Lyric is perhaps the kind of poetry which is open to the influence of civilization. It deals with no grand themes but rather confines itself to matters of ordinary occurrence which though different, of course, as time and place differ, are more or less the same or at least of the same nature everywhere. Indeed it is more difficult to lay hold of any strong point of contrast in the Lyric poetry of different ages than in any other kind of literature. In the matter

of beauty and tender gentle expression neither ancient nor modern Lyric poets can I think claim the palm. No modern can shew a more delicate scrap than Ovid's "Mors Omnibus Communis," no ancient a more touching poem than the "Brothers" of Wordsworth. But one feature there is about the production of Lyric poets which must not be overlooked and which shews more clearly than any other proof, the refining power of civilization in the making of poetic souls. We mean the women poets of the day. Ancient times could produce no Mrs. Browning no Jean Ingelow, no Adelaide Proctor, and had civilization done no more for Lyric poetry than charming into song the delightful muses of women poets, its influence even here would not be slight.

We therefore conclude that the influence of civilization on writers of poetry has been manifested chiefly in two ways, it has called forth writers of the finest inspiration, the most delicate perceptions from that larger half of the human race which before was mute, and it has tended to make men poets more real and less ideal in their modes of thought.

The nature and character of a poet inevitably decides to a greater or less extent, his selection of subjects, and his treatment of them, and we are therefore not surprised to find that a distinct tendency exists among modern poets to make choice of concrete particular themes where the ancients use abstract and ideal subjects. Æschylus teaches grand and moral lessons of the weakness of mortals and inevitable power of Fate, by means of representations of mythical exploits of gods and demigods. Shakespeare writes a series of plays each one with a distinct teaching on some point of practical morality. The same tendency of realization and practicalisation is visible even in the style of poets of different ages. Into the metre, more of freedom is admitted, the regular flow of ancient verse is superseded by more broken and flexible style. Metres of new and various forms are adopted, and in language fresh fields are occupied extending the expansion of human knowledge. Similes are found to abound in all nature, and epithets applicable formerly to only one class of subjects are found to be correctly applied with beautiful shades of meaning to many others. Such we think is a very brief outline of what the influence of civilization has been on poetry. To enter fully into the subject would demand greater space, but the question is one worthy of thought. Civilization has refined poetry while making it more practical, its deeper insight into nature has enlarged the horizon of the poet, and given fuller command over all the stores of nature's treasury, and this process has tended rather to increase than to detract from its force and vigour.

THE TEACHERS' GUILD OF GREAT BRITAIN AND IRELAND.

The eighth general conference of the Teachers' Guild of Great Britain and Ireland was held last month at Merchant Taylor School, Charter-house Square, under the presidency of Professor Jebb. Several important questions were discussed at the conference. At one of the sittings of the conference the Hon'ble Canon Lyttleton brought up the question of representation of teachers which was considered in the accompanying form:—"Would any measure for the organization of education be satisfactory which should not provide for the substantial and direct representation of teachers on a central council, and on all other central and local bodies dealing with the organization and control of secondary education?" The speaker argued strongly in favour of representation as he considered direct representation would unquestionably tend to establish a feeling of confidence between the teachers and local authority, while the necessity for choosing representatives would act as a stimulus to healthy and co-operative interest among teachers themselves. Mrs. Bryant supported the same view and Mr. A. Sidgwick pointed out that experience was entirely in favour of giving teachers "a larger finger in the pie." Mr. Lyttleton's resolution was carried with a slight verbal amendment.

Another subject discussed related to the dismissal of teachers, which was worded thus:—(*a*) Is it or is it not desirable that the dismissal of heads of schools should be subject to revision by some outside authority? If "Yes," should the appeal lie to the central or to a county authority? (*b*) Is it or is it not desirable that the dismissal of assistant teachers should be subject to revision by some outside authority? If "Yes," should the appeal lie to the governing body or to a central authority? After a long discussion, which brought out the existence of a sharp division of opinion on the question, a show of hands was taken, when a majority declared against a right of appeal in the case of head masters and in favour of such an appeal in connexion with assistant masters. On the question whether this appeal should be to the governing body or to a central authority the conference was very evenly divided, but the chairman declared that the majority appeared to be in favour of the governing body as the appellate authority.

The question relating to State Inspection took the following form:—"(*a*) Should all schools be subject to State inspection of such a kind as to secure—(1) proper health conditions in respect of buildings, plant

and playgrounds; (2) reasonable guarantees of efficiency in respect of staff, curricula and apparatus? (b) Should all schools registered as efficient be equally entitled to participate in scholarships?" The Rev. J. O. Bevan, late president of the Private Schools' Association, who opened the subject, pointed out the disabilities under which private schools suffer, and argued in favour of the proposition that all efficient schools should be entitled to participate in State grants, the grant being given on the average attendance so as to get rid of all intrusive questions as to examination of the scholars by a government inspector. The following resolution moved by Miss Cooper was carried *nem con*:—"That all schools should be subject to sanitary inspection; (2) that all schools recognized as efficient should furnish reasonable guarantees of efficiency; (3) that schools recognized as efficient should be accepted as places of instruction at which a local authority may declare scholarships or exhibitions under its control to be tenable."

Dr. Fitch read an able paper on the question "Should Legislation proceed on the assumption that Free Education cannot be limited to Primary Schools." In the course of the paper, he pointed out that gratuitous education was not the rule but the exception in most of the countries in Europe, but that the State and the local authorities make subventions which go far to cheapen the cost of education to all comers and to offer bursaries and free places to certain scholars, presumably those who specially need encouragement to prolong their studies. On the whole, he concurred with what seemed to him the wise treatment of the question by the Commissioners of Secondary Education; and having regard to the due economy of the public resources, to the importance of maintaining the sense of parental responsibility, to the large and free development of education itself, and to the influence of public measures on the character and the independence of the community, he was not disposed to assume that the principle of free education could not be limited to primary schools, and he preferred to answer the question in the negative. Canon Lyttleton, however, while supporting Dr. Fitch's view, feared that unless something was done definitely to deal with the higher grade board schools, free education would be forced upon them whether they liked it or not. Miss Creale (Birmingham) made a vigorous onslaught on free education as being not in the interest of the children themselves, and said it was monstrous that the rate-payers' money should be wasted as it was, and that would bring people to their senses if only the voluntary schools could be shut up for a season. Dr. Wormell expressed a fear that the unlimited extension of free education would tend to destroy the independent and industrious

characteristics of the people. Other speakers expressed their opinions on different sides, but the opinion of the conference as a whole was not taken upon the question by a vote. Other questions discussed at the conference were "School Games for Girls," "The Teaching of English Composition" and "School Reports and Characters of Pupils."

The existence of an organization such as the Teachers' Guild of Great Britain and Ireland for the discussion of questions of vital importance bearing on education cannot be over-estimated. The conferences, such as the one we have referred to above, have proved highly stimulating to teachers and instructive to educational bodies and we trust that in connection with the Madras Teachers' Guild similar conferences will be organized.

ENGLISH POETRY IN INDIAN SCHOOLS.*

(*Concluded from the January number*).

Having enumerated the various advantages that may be expected to result from a study of poetry and from exercises in recitation, let us now examine how a teacher may proceed best in teaching the subject to his pupils.

The method to be adopted depends upon the specific objects sought to be attained in the teaching. The object of teaching poetry in the schools is threefold. Primarily and chiefly, the teacher ought to aim at creating a taste in his pupils for poetic studies. To this end the other objects are but secondary and subordinate. These are to introduce the pupils to the great masters of English poetry, to acquaint the pupils with their ways and point out to them what may be expected by a more extended and deeper study of their productions, and to equip the pupils for self study in later life with the requisite knowledge of poetical constructions and peculiarities.

The success attained depends in a great measure upon the passages selected for the pupils' study. These should be as representative as possible. They should be such as to acquaint the pupils with the various modes of expressing thought and with the different kinds of spirit that prevades English poetry. At the same time, they should be sufficiently simple to attract the minds of the pupils. The sentiments expressed therein must be such as the young pupils may appreciate and

* A paper read by K. Sesha Aiyar, B.A., L.T., at the meeting of the Teachers' Association, Salem, held on the 12th October 1895.

understand. They should he graduated both as regards the language employed as well as the thoughts expressed. From the simple to the complex, from the concrete to the abstract, is the rule in this case as in every other department of teaching.

Having selected the passages the method employed must be such as to secure the aims above set forth. In any poetry lesson the teacher should take care to see that the ideas of the poet are grasped fully. It is in this respect that the teaching of poetry in schools generally is defective. Our pupils after attending a poetry lesson learn a good deal of grammatical constructions but leave the room with but a little addition to their ideas. The spirit of the poet and the idea that was in his mind which impelled him to run into verse should be well impressed upon the pupils, and their appreciation secured. It is this that cultivates a taste for poetical study. Where the scenes described or the ideas expressed are new to the pupils, as is often the case in the teaching of English poetry, the pupils' imagination ought to be roused. The various elements that go to form the group of the picture or sequence of thought, must be thoroughly explained and impressed. Pupils often form hasty and inaccurate concepts and are likely to confuse the representations of the poet with the circumstances and scenery to which they are themselves accustomed. They should be carefully guided in the grouping of the fundamentals of the whole imagery, and the divergence of the thing expressed by the poet from what they imagine it to be, well pointed out.

If the ideas expressed are thus thoroughly grasped, the emotions of the poet ought to be expressed in the pupils. This is the test of their having understood the passage. The teacher should himself be of a susceptible temperament and should exhibit the guiding feelings, the varying moods of the poet. He should create and sustain in his pupils all these feelings by presenting in himself an object which by its tone and expression forces the sympathy of the looker-on. The passive attention and the unsympathetic look, the teacher in our schools often meets with in his pupils, is but a mere reflection of his own want of sympathy with and non-appreciation of the sense of the poet. Emotions are more easily appealed to than the intellect. But the former requires a highly cultivated sentiment while the latter needs but patient explanations. Hence it is the latter is often secured more easily than the former. But in the teaching of poetry intellectual culture is of secondary importance to emotional culture. So the emotional results ought to be looked for more than the intellectual results. In this matter the advantage of numbers in the class makes the work

of the teacher easy. He has only to create the feeling, then it becomes self-sustaining.

Next in importance to the explanation of ideals and the creation of sympathy is the explanation of the grammatical forms peculiar to poetical composition. The teacher ought not to dwell too much upon ordinary constructions. Very often the tendency is to convert a poetry lesson into a prose lesson, and then the teaching becomes prosaic. Young pupils are bored with the ordinary laws of grammar and verbal construction just when they are very anxious to proceed to the rest of the piece. The teacher ought to bear in mind that a prose lesson is essentially a language lesson, and a poetry lesson an essentially literary one. It is the literary beauties that require to be impressed and not the ordinary grammatical forms. Much of the absence of the literary taste in the elder pupils may be attributed to the critical teaching of the passages. When once the taste has been created the language difficulty is easily overcome by the pupils themselves. Therefore, the language and the grammatical explanations of a poetical passage must be strictly confined to those which legitimately belong to poetical structure and composition.

The figures of speech employed by the poet must be pointed out and explained, and occassionally, the pupils themselves may be made to explain them. They should also be exercised in expressing in plain language the meaning hidden beneath the figures.

The above is a mere outline of the method to be employed in the teaching of poetry. The minute details have not been mentioned since they naturally suggest themselves when the guiding principles are remembered.

We shall now pass on to the subject of recitation.

The first business of the teacher is a proper and judicious selection of the pieces for recitation. If this work is properly done, half the work of the teacher is accomplished. For if the selected verses appeal sufficiently to the imagination and the emotions of the pupils, very little exertion is needed on the part of the pupils to commit the passages to memory. The memory is that department of the intellect which requires to be most carefully husbanded and utilised in these days of encyclopædic learning. Therefore whatever helps either in the way of intellectual or of emotional associations are available, must be fully utilised. We have often seen pupils in our schools repeating lines after lines of poetry with apparently great effort and little appreciation. Sometimes teachers insist that every line of poetry sought ought to be got up by

heart. This of course is all right when the portions sought are those which most excite pleasure in the pupils. But often the selection has to be made on other grounds too, as for instance to present to the pupils the various forms of poetic compositions. The amount of energy that would have to be spent in mastering the whole of the poetry pieces taught is something enormous, and after all the intellectual result is nothing commensurate. Hence recitation should be insisted upon only in the case of certain choice pieces and such as would entail little labour on the part of the pupils.

It must be here noted that often a poem which has not been taught as a portion of the text, appeals more to the pupils than one which has been so taught. The analysing and dissecting process that must necessarily be gone through to a certain extent in the act of teaching the text often burdens the intellect, and the task of getting them up becomes wearisome. Verses, the drift of which the pupils are just able to grasp without entering into the minute peculiarities, are most fitted to excite the pupil's imagination and hence most easily got up.

Impassioned poetry, such as is suited to the age and capacities of the pupil's must be selected and prescribed for recitation.

Impassioned prose, such as may be found in abundance in the political, forensic and religious utterances of the greatest men of England, must also be prescribed. Impassioned prose differs from impassioned poetry but little, and may possibly appeal better to youths by its concrete presentations of the daily incidents of life.

The remarks already made regarding the emotional susceptibilities of Indian youths, should guide the teacher in making a proper selection. Such as minister to these feelings and sentiments which are but dimly prescribed in the Indian emotional constitution and which therefore require most to be fostered, ought to occupy a very prominent place.

Occasionally a few light and fanciful pieces may relieve the intellect of the bonds of seriousness. In the case of the younger pupils, these should be more often prescribed as fit to cultivate the imagination, and more suited to their flitting interests.

Interesting historical ballads and pieces characterising historic personages, may well be handled in the teaching of history, and the application of the poetic strain to the concrete facts learned in history, will, while deepening the associations for the retention of facts, at the same time render the task of acquisitions in historical knowledge more pleasurable and less exacting.

Having selected the passage the teacher must first read the passage loudly and distinctly before the boys. The reading must be sufficiently

expressive, to make the signification of the language understood. The teacher must again read the passage a second time line after line and incidentally explain a new word or a foreign sentiment; the explanation must be confined to those points which must be understood to enable the pupils to grasp the general sense of the passage. The passage must again be read a third time by the teacher, the pupils following his voice simultaneously period after period. The boys then with the passage before their eyes must proceed to read it simultaneously.

The value of simultaneous reading, though well explained in books on Method, and learnt up by teachers appearing for Method examinations, has not been sufficiently grasped, and hence it is very rarely practised. To some extent this may be due to the defective accommodation in our schools. But a teacher who is impressed with its usefulness may have recourse to it out of school hours. This method is constantly adopted in our households to teach songs to our young girls, and in pial schools to teach the mathematical tables, or the vernacular poetry, to the young boys. The ease with which these are acquired permanently, with little or no reference to the book, is well known to all. If the same method be also adopted in teaching recitation, the work of the teacher, as well as that of the boys, will to a considerable extent be minimised.

After the pupils have read the passage simultaneously, one or two of the best readers must be made to read individually. These must be followed by a select few of the bad readers, the other pupils must be made to correct their faults. In the case of the individual pupils the teacher must patiently correct every fault that comes to his notice. It must often no doubt be wearisome; many pupils often commit the same mistake after repeated correction. But the time thus spent is not ill spent, and much of the later acquirements of the pupils depend upon the careful supervision of the teacher in the early period.

The faults most commonly observed in the recitation of English poetry by Indian pupils are :—

1. *Hasty utterance.*—This is due to the fact that pupils often follow the sequence of sound rather than that of thought. In the earlier periods of school life the succession of thought is rather laboured and slow, while the succession of sounds is easy and rapid. To correct this, the pupils must be made to follow the sense. The teacher ought to, now and then, question the boys as to the sense at the end of periods. To compel slow delivery is to compel the march of thought.

2. *Indistinctness.*—Elision of the last syllables of words. This is the result of hasty utterance. If the latter be remedied, distinctness of utterance is easily secured.

3. *Inaudibility.*—This may be due to natural nervous temperament or to natural defect of voice. Both these can be cured only by frequent exercise. The teacher may often place the boys at a distance from the the class and make them recite slowly so that the whole class may hear.

4. *Repetition*, or going back to a portion already repeated to get over a missing link by verbal association.—This is a sure sign that the pupil is not following the sequence of thought. Hence this is often a result of hasty utterance, and when that is put a stop to, this will naturally disappear. A few questions when the pupil stops, on the subject-matter of the passage, will assist the pupil in discovering the next succeeding thought and set him on the right track. Don't accept any recitation in which this fault is committed. Let the pupil recite as often as necessary until this entirely disappears.

Singsong delivery.—This is due to the practice of reading the vernacular poems with the appropriate *ragams.* This can be remedied only by making the pupil follow the teacher, period after period, a certain number of times.

5. *Passive delivery.*—Devoid of expressiveness. The pupil has either not understood the passage, or is not in sympathy with the feeling expressed. If all the pupils commit the same fault the teacher has not aroused the sympathy of the pupils. The teacher must therefore impress upon the pupils all the surrounding circumstances that add beauty and strength to the passages. It is not necessary that all the niceties of expression and appropriateness of epithets should be dwelt upon. It is enough if the pupils enter fully into the spirit of the passage, and grasp the grandeur of the occasion.

From the above it will be perceived that the subject of recitation, which has long been looked upon as one in which the teacher has little to do and the boys everything, demands the attention and care of the teacher as much as any other subject.

Before concluding, the following few suggestions as to the method to be adopted by the pupils for the permanent acquisition of any sequence of words, may not be out of place here. The method now in vogue, as in getting up geometrical definitions and enunciations, geographical definitions and recitations in poetry, is well known to all,—unintelligent and unintelligible repetition and repetition alone. This entails a great waste of time and energy, and, after all, the pupils in their eagerness to master the verbal sequence, lose sight altogether of the sense. The following method, while it may take time, will, by its results, justify the amount of time spent. The pupils ought to be initiated into the method and frequently practised. The ordinary reading

lesson will afford enough occasions for the teacher to procure the formation of the habit indicated below.

1. The pupil should, for the first time read the portion to be committed to memory, slowly and distinctly, to grasp the meaning of the passage.

2. He should read the passage aloud, sentence after sentence, the eye being in advance of the print. This practice can only be slowly formed. To procure this habit, the teacher should insist on the pupil reading a passage with his eyes and then repeating it to the teacher with his face away from the book. The frequent stumbling over a new or a long word, is the result of the pupil following the sight of a word immediately with its utterance. But if he could see in advance of his utterance, this stumbling will be of rare occurrence. The present practice of the pupil of uttering a word immediately after seeing it, is an automatic one, the sense of the passage not being laid hold of. A word or phrase must be perceived with the eye, its sense grasped by the intellect, before it is given utterance to. This is of very great value in the later acquisitions of life.

We often find pupils, who have repeatedly read a passage, unable to give the substance of it. Very frequently when one fails in answering questions in history, on enquiring, it is found that such failure is not always due to neglect, the pupil honestly confessing, that, though he has read the passage twice or thrice, he has not been able to grasp the facts. This is due to the practice of hasty mechanical reading, fostered in early age, to make a show for a reading lessson in the lower classes. From the very beginning the teacher ought to take the greatest care to see that in reading lessons, the sense is followed, though very slowly and with difficulty at the first reading. The mechanical result is not difficult to arrive at, and when once the sense is grasped, reading becomes distinct and expressive. One ought rather to prefer a pupil who reads, stumbling over phrases and words, if he could but give the sense after reading than another who reads a passage without the least hesitation, but when questioned as to the sense, at the end, fails altogether. The majority of the pupils of our schools belong to the latter class, and hence it is that most pupils grasp little after the first reading of a passage, though the style of composition and the diction employed is not above their comprehension. The satisfaction of having *read* a lesson rather than that of having *understood* it, is what most students aim it. A single, slow, deliberate and thoughtful reading will be more beneficial than reading over the same five or six times, each time hastily. Hence this practice should be very carefully fostered in the reading lessons in the earlier stages.

3. By reading the passage twice in the manner indicated, the general sense of the passage, the connecting links of thought, and the language in which they are expressed, becomes familiar. In the third reading the pupil ought to glance at the print and deliver the sentence with the eye away from the book.

4. This same process of reading ought to be repeated, every successive reading necessitating less frequent reference to the book, until, the passage being mastered, no reference to the book is at all necessary.

The method above indicated procures the formation of associations between sight, sense, and utterance, and between thought and thought; while the current mode forms associations only between sound and sound, thus wasting a great deal of time and brain-power and, after all, for no good result.

THE PUNJAB CONVOCATION ADDRESS.

The Vice-Chancellor delivered the following address:—

Mr. Chancellor and Gentlemen.—In following what may be regarded as the established custom of bringing our proceedings to a close by the delivery of an address, I shall say nothing about the benefits of education. I propose only to touch on some of its difficulties and dangers, and to address a few words of advice or warning to those who have to face them. The difficulties and dangers may perhaps best be set forth in the form of a general charge which has not unfrequently been made against the Indian Universities and the system of education connected with them, and which may be stated thus:—Firstly, that the course of study pursued is exotic, foreign to the whole national character; that it is superficial as well as artificial; that the examinations in which it ends are no test of real knowledge, and are crammed for merely as a means of obtaining Government appointments. Secondly, that the youth of the country are led by false hopes of success and by too lavish distribution of scholarships, to leave their own proper walks of life in order to engage in a struggle in which but very few can possibly be successful. Thirdly, the result either of success or of failure is almost equally disastrous; those who succeed are so puffed up with vanity that they are spoilt for all practical work, and those who fail are so crushed that they are incapable of further effort, or so soured that they become mischievous and dangerous members of society. This charge is a very serious one, and it is not to be disposed of by invective on the one side or declamation on

the other. Whether it is true or untrue in whole or in part, can only be ascertained by a careful examination of the facts relating to each branch of it. Let us first consider the part which condemns the whole system of education. I am not, of course, in a position to speak for the other Indian Universities, and they are perfectly capable of speaking for themselves. I confine my remarks solely to the Punjab University. I am old enough to remember, not only its foundation, but also the movement which gave birth to it, and the causes of this movement. One of these undoubtedly was a feeling of dissatisfaction with the educational system which then existed in other parts of India It was felt, rightly or wrongly, that this system was, at least to a considerable extent, open to the objection stated in the first part of the charge, and the main objects of the Chiefs and gentlemen of the Punjab who so generously supplied the funds necessary for the foundation of the University, was to remove this evil. They hoped to do so by reviving and extending what is best in Oriental learning and by providing a sound system of higher education for those of the youth of the Punjab who were naturally fitted to receive it. The objects of the Punjab University are fully set forth in its statute of incorporation, and are declared to be—(1) the affording of encouragement to the enlightened study of the Eastern classical languages; (2) improving and extending vernacular literature generally; (3) the diffusion of European science, where possible, through the medium of the vernacular, but where this is not really possible, through English; (4) promoting the study of the English language and literature. To carry out these objects the University maintained—(1) an Oriental College; (2) a Law School (and the maintenance of both is made obligatory by its statute); (3) a School of Medicine; (4) an Arts School. It certainly cannot be said, as regards the first three that the course of study is exotic or artificial or superficial. The Arts School, which is intended to meet the remaining objects set forth in the Act, *viz*: the encouragement to the study of the English language and literature, may at first sight seem open to the charge. That a Punjabi student should devote his time and energies to the study and criticism of Shakespare's plays, or to writing English essays in a style intended to be a copy of English models, may seem to some persons highly ridiculous. No doubt it seems to them equally ridiculous that the greater part of the time and energies of an English student should be devoted to the study of the Greek tragedians, and to Latin and Greek composition. But those who would thus deride these forms of study wholly fail to understand the real purpose of an Arts course. This purpose is not to make a young Punjabi fancy him-

self an Englishman, or a young English man fancy himself a Greek or Roman. It is not to cram their heads with "useful knowledge." The true object of the Arts course, or to what is called a liberal or classical education, is to train and expand the mind. For training the mind, the study of a foreign language, and especially by composition in it, is an admirable method. It makes a student realize, and expend considerable mental effort in realizing, the true meaning of every sentence and every word which he reads or writes. When the language studied has a noble literature, the study of the masterpieces of this literature opens the mind in a manner that few other studies can do. The subject of the course may be selected with more or less wisdom, the student may study them in a right way or a wrong way, but the object of the course itself—to form the habit of accurate thinking or of wide thinking—is not open to objection. I think, therefore, that the Punjabi University is entitled to an honourable acquittal on the first part of the charge.

The second part, that, whatever may be the merits or demerits of the system itself, it leads boys and young men, who had far better be employed on their fathers' fields or shops, to seek to enter one of the learned professions, or to obtain Government employment is a matter which it is more difficult to deal with; but, even if the charge were partially true, it is one for which the University is in no way responsible. The responsibility must rest on the student himself, on his advisers and his parents or guardians. It may no doubt be an excellent thing that it should be possible for any boy of real ability, however humble his position in professional or official life. On the other hand, it is a very bad thing that boys of any position should be led by a false estimate of their own powers, or by false hopes, to waste their time and money and energies, in the pursuit of what is beyond their reach. It is the duty of everyone who has any influence over a boy's future, to weigh very carefully the chances, of success in any career that he may think of selecting for him or advising him to follow; the cost, of every kind of the necessary preparation must be thoroughly realized, and it should be fully considered whether the time and money cannot be more profitably devoted to some other object. Schoolmasters and others engaged in education are not always safe advisers on these matters. They are apt to over-rate the powers of their pupils, just as a man may over-rate the powers of a young horse and endeavour to make him a race horse instead of leaving him to the more *useful* and more *suitable* employment of dragging a cart. They are still more apt to over-rate the importance of success in examination—and they are also influenced by a desire to credit this success to themselves. There is, I fear, a very great tendency to measure a

schoolmaster's merits by the sole test of successful pupils—but in my opinion, the master who can point to a large number of pupils, who, without achieving any brillant academic success have returned to their ordinary life the wiser and better for his teaching, has done far more real good in the world than the master who can only show a high number of prizes and passes. But, whoever makes the selection of a career must be thoroughly prepared to face the consequences of failure. Whether in the case of students, past or present, of the Punjab University, the selection of a career has been wise, is a question that cannot be answered without an inquiry into the personal circumstance of each of them with a minuteness which is hardly possible. There must even after the most careful selection, always be many failures and disappointments. There will always be a danger of too many men seeking to live by their brains instead of by their hands. All that can be done is to warn men against the danger, and to urge them strongly not to lose the substance in the pursuit of a shadow. The third part of the general charge relates to the effect of the examinations both on successful and on unsuccessful students. It is said that those who succeed in these examinations are so puffed up by success as to be spoilt for all practical purposes. Now, no doubt success in an examination is liable all the world over to turn a boy's or a young man's head. When a boy gets his first scholarship at school, his own family and friends think him remarkably clever. When he does the same at an university, or comes out well in the list of successful candidates at a competitive examination, they think him a genius. It is not surprising if the successful competitor at first shares their opinion. He may continue in the same opinion all his life If he does, his usefulness will certainly be greatly impaired, if not wholly destroyed. He will be regarded as an unpleasant or offensive acquaintance, and he will probably suffer considerably from attempts of others to make him form a more correct estimate of his own merits. This estimate, a successful competitor, if he has good common sense, will have no difficulty in forming for himself. If, for instance, he has successfully competed at the examination for the Indian Civil Service, he may justly regard this as a very creditable performance. But he knows well that even in his own single year some 40 other young men achieved a similar success, and those who might have achieved it if they had tried might almost be counted by hundreds. On his arrival in India he finds, what he hardly realized in England, that for the last 30 or 40 years batches of from 30 to 80 young men as successful as himself have been annually imported into the country. He soon learns that the utmost that can be said even of the highest distinction in examinations is, that it raises a presumption

that the man who achieved it will do well hereafter. Whether he will do so or not will depend entirely, subject to all the accidents of fortune, on the manner in which he does his practical work. I think, from my own personal experience of the successful students of the Punjab University, that they may be compared not unfavourably with other similar classes. I do not think that they are more prone to be unduly puffed up by success, or less ready to get rid of any feeling of vanity with which this success may have inspired them. As regards the failures, the last charge is that they turn to political agitation and seditious writing, and become positively mischievous members of society. Now, in what is called political life there is, as in almost everything else, a great mixture of good and evil. There can be hardly anything nobler than its highest form, or viler than its lowest. To devote one's life to ascertaining the true needs of one's fellow countrymen, to preparing thoroughly sound and well considered measures for meeting these needs, to patiently investigate alleged abuses—and even under the most perfect system of government there must be abuses due either to mistake or to malice—to bring these abuses to light by temperate but firm representation, and secure their remedy, or, if need be, the punishment of the offenders, is as noble a task as any human being can undertake. On the other hand, to falsely pretend to work for your fellowmen, to appeal to their higher feelings merely for the sake of making them your puppets, to invent wrongs and grievances, and attribute to a particular class, evils which are the inevitable result of the natural conditions of human life, to set man against man, class against class, and race against race, to really care nothing for abuses, to be willing to conceal or even defend the worst abuse in return for a bribe, to be ready to make or threaten the foulest charge as the means of extorting a bribe, to do all this for the purpose of directly or indirectly, filling your own pockets, is as vile, and degrading a career as can well be imagined. It is not amongst the youth of the Punjab whose fathers, when they had an enemy, met him like men face to face in the open, and when they had a friend, stood by him loyally to the death, that recruits for such a career are likely to be found. I should require clear proof before I believed such a charge against any individual student, and I should require it to be proved against many individuals before I believed it against students as a class. You must not suppose that my remarks on the worst form of political life are intended to apply solely—or even specially—to India. They apply to some politicians and are true all the world over—but I am happy to believe that the class to whom they apply is a limited one. The greater part of those who take part in

political life do so from neither very exalted, nor from very base, motives. To take an intelligent interest in what is going on around you, is desirable for all. To do more than this—to attempt to take a leading part in political life, to contribute anything of real value to the discussion of important questions—is a task generally beyond the powers even of the ablest of young men. It requires mature judgment and wide experience. If you are ever to accomplish it, you must apply to the study of politics precisely those methods which your education has taught you to apply to other studies. You must first completely master your facts, and then reason intelligently from them. When any proposal is under consideration, your first step must be to throughly understand it; your next to fully consider its probable consequences; and your third to form your opinion as to whether they are desirable or undesirable. Treat politics in this way, and your connection with them, either as an amateur or as a professional journalist, will not only be no reproach to your education, it will probably result in actual good. Treat them in any other way, and you will be nothing more than a windbag, and probably a mischievous one. If you are, it will not be your education which has made you so, but your own natural defects which your education has failed to cure. I have now discussed as fully as time permits the charge made against the University course of education, and the students who follow it. My opinion of it is, that as regards the course itself the charge is unfounded, and as regards the students it is certainly unproved, but the dangers which form the basis of the charge are dangers which must necessarily always be recurring, and must be constantly carefully guarded against, I will conclude this address with a few words of advice to those students whose educational course has ended or may hereafter end, in disappointment. I have a warm sympathy for you, and indeed for all the students of the University. I have served in the Punjab for more than thirty years, the fathers or grandfathers of many of you have been my warm personal friends, and anything I could do to help you I would do gladly. I can only now help you with advice, and my advice is this. Face your difficulties like men. Remember clearly that you entered on your educational course with your eyes open, and deliberately undertook the risk of failure. Now that failure has come, it is unfair and useless to attempt to throw the responsibility on anyone else. But if it would be a relief to your feelings to do this, do it by all means. Curse the Government for inventing an educational competition. Curse the teachers who advised you to go in for it. Curse the pious founder who gave you a scholarship, or the guardian who supplied funds to enable you to follow your course. If you heap on their

heads every opprobrious epithet, English or vernacular, that your vocabulary may contain, you should still be able to finish the cursing process in half an hour. Finish it in whatever time you like, but finish it once for all, and then take the first honest employment that may be open to you. If there is no such employment to be found, go back to your shop or your fields, and start again where you left off when you commenced your educational course. You may feel that you have wasted the best years of your life in a vain pursuit. Waste no more. Whatever your work may be, do it heartily, and apply to it those principles of thoroughness and intelligent observation, which it has been the object of your education to teach you. Do this cheerfully, and you will soon find that the time spent on your education has not been in vain.

REVIEWS OF EDUCATIONAL PERIODICALS.

ENGLISH.

THE JOURNAL OF EDUCATION, (London) January 1896.—The chief place in the current number of the Journal of Education is given to a lengthy article on "*The Study of Moral Sciences at Cambridge*"—a triple-signed protest against the commonly accepted opinion of these subjects. The writers address themselves to the students not the teachers in the assurance that "the Moral Sciences at Cambridge though excellently taught are marvellously little studied." Their complaint reminds us of a form of puzzle picture much in vogue in the days when Plancus was consul, which concealed the most essential feature in a mass of vividly portrayed accessories. "Here is the dinner table laid, and here are the children, but where is the Christmas pudding?" So, if our memory holds good, ran the somewhat plaintive legend in one instance. "Here are the distinguished Professors, and here are the empty benches, but where are the students?" is in effect the text on which the present exhortation is delivered. In striking contrast to its co-equal in age—the Natural Science Tripos, the study vulgarly known at Cambridge as "Moral Stinks" would seem to make no way among the students. "All serious or thorough study of anything which could be called a moral science seems to have died out in Cambridge, when the many-sided Dr. Whewell began to write on logic and on ethics, and set some lectures upon them afoot in 1851"—a somewhat striking testimony to the powerful personality of the late Master of Trinity. "Hence it was that the revival of philosophic

interest which took place in England in the fifties originated outside our Universities altogether. It spread over partly from Scotland, and was fostered by men who had had no University education, such as Bentham, James Mill, John Stuart Mill, Herbert Spencer." But though Cambridge has again opened her arms to the study and has spread for the student a dainty repast consisting of logic, psychology, political economy, ethics, metaphysics, politics, and philosophy the wary undergraduate persists in "passing by on the other side." It is with the object of assisting the tempting nature of this diet by an assurance of its eminently wholesome character that the present article seems written. The general opinion entertained of the moral sciences is, we believe, that intellectually they may be stimulating but that practically they are not of much use. The man who is constantly attempting to see the back of his own head—and this may be said to be the physical equivalent of Metaphysics—will doubtless in time develop a marvellous suppleness of the neck muscles: but it is not very evident that he will gain much else. Against such a view the writers of the article in question vigorously protest. The moral sciences, say they, are an excellent second Tripos study. Not only should a select few strictly specialise in them from the beginning, but nearly all intellectual men should take a course of them in the later years of their academic life. "Moral science appears to be the goal to which all roads of learning lead; and the ideal moralist therefore would be he who has been the round of all the other schools to begin with"—a prospect at which even Macaulay's school-boy might stand aghast. But since "life is short for all ideals, and this among the rest" the student must be content with small mercies and take his course of "morals" in the form of a second Tripos. This done, great benefit will result to him all the days of his life no matter what his calling —soldier, sailor, tinker, tailor. If a politician, then "ethics and economics go straight to the roots of all social life. The progress of any State is conditioned on the one hand by the satisfaction of material needs, and on the other, by prevailing moral ideals. No one who compares the questions now discussed in Parliament with even a generation back can fail to be struck with the increasing prominence of economical and sociological considerations." Lawyers, civil servants, journalists, clergymen, schoolmasters and physicians will all find a moral science training of advantage; journalists because they thereby "learn to conduct an argument systematically to a definite close" and become "full of interesting matter"; clergymen because "many a clergyman has confessed that he feels it more incumbent on him nowadays to read a text-book of political economy than the Lives of the Fathers or a dissertation on the Thirty-Nine Articles": schoolmasters because "the study of certain branches of moral

science and chief of all psychology would go a long way, *caeteris paribus*, towards making the ideal teacher out of the intelligent man": and physicians because "modern medical science recognises more and more emphatically the close connexion between mental and bodily states." All this no doubt is true or partially true: for as metaphysicians the writers should be the first to admit that no statement can contain more than a particle of truth. But when, carried away by their enthusiasm, they wish to extend the catholicity of moral science to the pursuits even of the business man, we must confess they give us pause. It may be "of the greatest moment that the captains of industry should be men of high attainment both mental and moral and especially that they should be masters of all the social science that bears directly upon their undertakings"; but in dealing with such an argument we prefer the historical method. We should like a few statistics of the connection between successful business men and the study of moral science. There is, we believe, a pretty general opinion among "City men" that a University training ruins any man for business pursuits. Now if the study of moral science be a good preparation for business, it seems curious that "City men," who are keenly alive to anything that may give them an advantage in the struggle with their fellows, should not have discovered it ere this; still more curious that their opinion should be quite the other way. Here we have the economic man *par excellence*—he whom self-interest keeps ever watchful and prompt to seize every possible superiority—fully convinced that not merely the Moral Science Tripos but all forms of Tripos serve only as a dead weight in the race. It would require a large amount of *a priori* argument to overthrow what are presumably the conclusions of experience. On the whole it is an excellent thing to be enthusiastic, if one does not develop into a bore. But enthusiasm, like poison, should always be provided with an antidote near at hand. Accordingly we supplyone:

"There once was a Metaphysician
Who held that he did not exist
But when he explained his position
They said—'Well you wouldn't be missed.'"

Next to the article just dealt with comes one on "*The Growth of the Brain*" based on a recent work of Professor Donaldson, of Chicago. The hopes of those educationalists who expect assistance from physiology are, says the writer, doomed to disappintment. Tracing the physical development of the brain under the influence of education is impossible for the best of all reasons—because apparently it does not develop. "At birth the weight of the brain is one-quarter of that which it ultimately attains,

while the corresponding proportion, in the case of the whole body, is less than one-twentieth. At the end of a year the body has attained one-sixth of its development, as estimated by weight, but the weight of the brain is two-thirds of its ultimate weight. At four years of age, which is the earliest age at which 'education' can be considered to begin, the body has still three-quarters of its growth before it, but the brain only one-tenth. This is not all. At the end of the first year, although the brain has still some increase in weight to achieve, its structural development is complete, so far as the utmost methods of microscopical research can reveal. At birth the cells and fibres are, to some extent, imperfectly developed, but the first year of life completes them, and brings them to a condition absolutely indistinguishable from that of adult life." If this be so, one can scarcely wonder that Professor Donaldson is impressed by "the comparative insignificance of formal education;" but the question remains,—ought educationalists to be sorry or thankful for this insignificance?

The *Supplement* to the Journal contains interviews with Mr. Yoxall, M. P. for West Nottingham, one of the Royal Commissioners on Secondary Education, and Miss Metcalfe, of Highfield Hendon, with whose names our readers are doubtless familiar. The subject discussed was naturally the all-pervading Report—which has now received the blessing of the Headmasters assembled in conference at Eton. From the account of their proceedings contained in the Supplement we learn that on the motion of Mr. Welldon seconded by Dr. Vardy they resolved "that this conference welcomes the Report of the Royal Commission on Secondary Education, as promising in its main features a satisfactory solution of the problem of secondary education in England." Mr. Welldon put in a claim of paternity on behalf of the Conference and urged it "to welcome a Report which was so much the child of its own imagination"—an assumption which the Journal characterises as needing "the audacity of a Danton or a Beaconsfield." In rather amusing contrast to these amicable schoolmasters comes a paper on the irate schoolmaster giving an account of a quarrel between the famous Busby and his second master—one Bagshawe. Based on a pamphlet of 1659 the paper is rather quaint reading. Though appointed to the second mastership of Westminister largely through Busby's good offices Bagshawe soon gave offence through "sitting with his hat on in church, his slighting of Arabic and 'not over-valuing Busby's Greek Grammar.'" Before long the quarrel had pretilly developed, and Busby was demanding from the governors Bagshawe's dismissal. Bagshawe, suspended by the authorities, took legal opinion, and, being informed that he had an estate of freehold in his mastership,

(which, even if bad law, throws rather a curious light on the position of the 17th century schoolmaster) held on. Finally Busby was forced to cut down the staircase between the school and Bagshawe's room—a feat, that, even if we did not already know it from his reputation with the rod, would prove that Busby was capable of much better things than writing a Greek Grammar. We are sorry to see that the writer in the Supplement would diminish Busby's historic reputation by suggesting that in his prowess with the rod he has been indentified with his nephew—John Busby "who did abuse the liberty of whipping to such an excess and extravagence of severity" as to cause Mr. Bagshawe the inconvenience of blushing.

THE EDUCATIONAL TIMES, (London) January 1896.—The most interesting paper in last month's number of The Educational Times is one on the Secondary Schools of Denmark read by Mr. Thornton before the College of Preceptors. From this it would seem that Denmark has solved the problem of how to successfully combine private enterprise and State supervision as will be apparent from the following passages :—

In Copenhagen and its immediate vicinity are thirteen *lærdeskoler* or Latin schools, in which the education terminates at the age of eighteen in a State leaving examination, called *Artium*, which admits to the University. Twelve of these are also *realskoler*; *i.e.*, they have modern sides, where the education terminates at sixteen in a minor leaving examination, called *Präliminär*. Of these thirteen schools, only one (a purely classical school with about 200 boys) is a public school; the other twelve (one of them the only girls' grammar school in Denmark which prepares for *Artium*) are all private, and have in the aggregate, on the classical and modern sides, about 1,600 pupils over twelve years of age. But, if their preparatory classes be also counted in, their pupils must amount to more than twice that number. In the same city there are also fourteen *realskoler* pure and simple, seven for boys and seven for girls. These are also in private hands, and contain altogether between 2,000 and 3,000 pupils. All these various schools are recognised by the State in such a way as to constitute part of the State provision for secondary education. Statistics with regard to them are found in the education reports just as for public schools. In the State-recognised secondary schools in Copenhagen, therefore, private school pupils are to public as thirty to one.

If, in a visit to Copenhagen, you come across a secondary school for 400 or 500 boys or girls, with buildings palatial in their character, rest assured that that school is a private school. The Bishop of Hereford's glowing picture of the future of private schools, in the November *Educational Times*, is in Denmark an accomplished reality. But the conditions there are widely different from those that at present obtain in England, and also from those recommended by our Royal Commissioners.

The State in Denmark has used no compulsion in thus enlisting in its service such a large amount of zealous private effort. It has simply provided a higher leaving examination and a lower, and confined the privilege of sending in candidates to schools that reach a certain standard of excellence. The higher examination is

indispensable for those students who wish to pass to the University ; and the lower is taken very generally by all wishing to enter on an industrial or commercial career with the best promise of success, besides being obligatory for those who intend to be dentists, veterinary surgeons, solicitors, surveyors, agricultural or horticultural students, and the like. Though Denmark is such a small country, there are as many as 400 students who pass the higher examination every year, and close on 1,200 who pass the lower. Any school obtaining permission (*tilladelse*) to send in candidates to either or both of the examinations thereby becomes a State-recognised school, and ranks with the public schools in the Government reports.

It will be sufficient to show how the system works with regard to the *realskoler*, which are of more recent establishment and four times more numerous than the grammar schools. When a school makes application for the privilege of holding the examination, the Inspector pays a visit to it, watches the teaching, takes other means also of learning the capacity and antecedents of the staff, and sees if the buildings are sufficient and sanitary. If everything is satisfactory, permission is given for three years, at the end of which another, and probably less stringent, inquiry is made. In addition to this, there are of course the leaving examinations, held every year, which testify to the character and success of the school. If the inspection be satisfactory save in one point, everything else being excellent, the permission may then be granted for one year only, at the end of which the permission will be given for the usual term if the defect has in the meantime been removed. There is scarcely an instance known of the permission being withdrawn in the middle of the period for which it was granted nor yet of its failing to be renewed—the possibility of its not being renewed being sufficient to keep the school up to the mark. But a school has not unfrequently had to apply again and again before the permission was granted. The last four applications in 1894, for instance, were all refused for some deficiency in staff, equipment, or buildings. This amount of inspection and examination the State, under ordinary circumstances, finds enough for its purpose, *i.e.*, an inspection every three years that has reference to the entire work of the school, and a yearly examination of the highest class. And it is to be noted that no headmaster complains of his just freedom of control being interfered with.

Equally successful has the State been in its dealings with the country schools. "Private and local effort, guided and stimulated by the State, has been able to spread seventy-three State recognised '*realskoler* for boys and girls quite evenly over Jutland and the islands. The State has not established a single school of its own ; it has been content to organise and improve those that already exist, instead of underselling them." In cases where a deficiency of receipts makes itself felt the State "steps in and makes a yearly grant of not more than £112 per school, on condition generally that the commune and the County Council make a grant also." As a result of this cautious yet apparently adequate treatment we find that the cost of its secondary education to the State is not more than £7,000—£8,000 a year. In view of such satisfactory results it is somewhat strange, as a subsequent speaker remarked, that

the Danish system should have been "entirely overlooked" by the recent Royal Commission.

INDIAN.

THE CHRISTIAN COLLEGE MAGAZINE, February. The leading article, as usual, on a religious subject, is from the pen of the Rev. E. M. Macphail. The Rev. George Pittendrigh contributes a very readable article on "The Carlyle Centenary." Mr. T. K. Gopala Panikkar, B.A., writes on "Indian Traditions and Superstitions of Malabar." The article is ably written and shews evidence of careful research. The first part of a paper on "Hindu Women in the Past and in the Present," by T. S. Kothandarama Aiyar, B.A., B.L., read at a public meeting in Berhampore, forms the last article. In the Notes and Extracts, the Editor refers, among other subjects, to the convocation address of the Punjab University by Mr. Justice Roe, which we publish *in extenso* elsewhere. The reviews of new works are, as usual, very carefully done.

THE INDIAN MAGAZINE AND REVIEW, February. This issue opens with an article on the Countess of Dufferin's Fund from the pen of the Marchioness of Dufferin and Ava. We gather from the article that the executive committee of the Fund have discontinued two of the scholarships hitherto given at the London School of Medicine and have replaced them by grants-in-aid to female students residents of India, desiring to complete their medical education in England and to qualify for the English Medical Register. Mr. Manomoham Ghose's address, delivered at a meeting of the National Indian Association, on "Progress in Bengal," which has created some sensation in the Bengal papers, is printed *in extenso*. Mr. Ghose firmly believes in the ultimate success of the grand and unique experiment which England is now engaged in trying in India, *viz.*, the experiment of engrafting a Western civilization upon an Eastern stock. "There are," he says, "undoubtedly great difficulties in the way, but I have no misgivings whatever regarding its success if we could only feel assured of the sympathy of the English people." Mrs. Brander's interesting paper on "The Kindergarten in the Madras Presidency," read before the Women Teachers' Association, Madras, also appears in this issue. Mrs. Brander says that in a larger number of girls' schools the occupations of paper-folding, plaiting and cutting, bead-threading, moulding in clay, drawing, seed-placing, &c., are taught, action songs are sung and a few games played, and in a smaller number of schools some ideas of colour and form are developed by means of these occupations, but she adds that the number of schools in which there is a slight connexion between the occupations, action songs and

object lessons, might be counted on the fingers of one hand. Even this imperfect Kindergarten teaching has a distinct value. "No one who has seen the small child absorbed in shaping her boat or other article, who has seen her satisfaction in completing it, her pride in showing it, the eagerness with which she answers questions about its colours, shape and use can doubt that she has gained much by her small achievement." We believe that even this small beginning in Kindergarten has not been made in the boys' schools in our Presidency.

THE N. W. P. AND OUDH EDUCATIONAL MAGAZINE.—The first issue of this new magazine has been kindly sent to us for review. The articles are more or less of local interest but they are well-written. A considerable portion of the magazine is devoted to educational news in the different provinces and this part of the magazine is well edited. The magazine is likely to appeal to students as a special section is devoted to model questions and answers, examination papers, &c. Reference is made in one of the editorial notes to the New Educational Code as follows:—

"The New Educational Code, which we have as the result of the Educational Conference which met at Calcutta in the last spring under the presidentship of Sir Alfred Croft is destined, if *properly and impartially worked*, to revolutionize the whole system of education at present in vogue in India. Henceforward and in future the Conference recommend that grants-in-aid should be made to depend on the general efficiency of a school rather than on the number of individual passes in the annual examination, as has hitherto been the case. The one great drawback of the present system of payment by results has been that, in their eagerness to earn larger grants, the managers of schools have but too often permitted themselves to lose sight of the true end and aim of education, which is to promote efficiency and discipline, and to produce mental dexterity in students rather than to convert them into mere passing machines and intellectual parrots by means of "cram". In order however to bear its intended fruit, the operation of the proposed change will have to be watched with more than ordinary care and caution. In the first place, the Inspectors have to be more on their guard than ever that they may not be imposed upon by astute managers and proprieters into regarding schools only superficially efficient as really so. They have also to be thoroughly just and impartial. The responsibility of the inspecting officers is considerably increased when they have to guage the general efficiency, the moral tone and discipline of a school instead of as now merely determining according to the number of "passes" the claim of certain institutions for increased grant. It will no longer be a question of mere arithmetical calculation."

We wish this new educational venture every success. The printing and get-up of the paper leaves much to be desired.

INDIAN NEWS.

BENGAL.

The Governor-General in Council has been pleased to appoint the undermentioned gentlemen to be Fellows of the University of Calcutta:—The Hon'ble Mr. Justice S. G. Sale, M. A.; Lieut.-Col. A. D. McArthur, R. E., Secretary to the Government of Bengal, Public Works Department (Irrigation and Marine Branches); Surg.-Major J. B. Gibbons, M. D., Superintendent, Campbell Medical School, and Professor of Medical Jurisprudence, Medical College, Calcutta; Mr. W. H. Arden Wood, B.A., Principal, La Martinière College, Calcutta; Mr. E. M. Wheeler, M. A., Senior Tutor, Bishop's College, Calcutta; Shams-ul-Ulama Ataur Rahman, Superintendent, Office of Sanitary Commissioner with the Government of India; Babu Sureshprasad Sarbhadikari, M. D.; Rai Jyotindranath Chandhuri, M.A., B.L.; Babu Lalbihari Mitra, M.A., B.L.

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Mr. W. Griffiths, the present Principal of the Presidency College and Registrar of the Calcutta University, will probably leave India in April. It is understood that he will be succeeded both as Registrar and as Principal of the Presidency College by Mr. A. Pedler who will resign his post as Meteorological Reporter to the Government of Bengal.

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Mr. Griffiths is to be congratulated on the result of his careful administration of the University finances. The accounts for the year ending the 30th June 1895 show a substantial surplus of Rs 27,394-6 the receipts being Rs 2,03,647-12 and the expenses Rs 1,76,253-6. Of this surplus Rs. 23, 611-1-5 was carried to the Reserve Fund and the remainder added to the Balance. Securities of the nominal value of Rs. 35,000 were added to the Reserve Fund from the amount thus transferred, and the interest receipts of that fund.

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There has been the usual shower of prizes at the conclusion of M.A., B.L., and Premchand Roychand examinations. The Sonamani Prize has been awarded to Bajalal Chakrabarti, of the Sanskrit College. The Ritchie Prize and the Gold Medal for Law have fallen to Dhanapati Bandopadhya. Satirchandra Bandopadhya, who narrowly missed the Premchand Roychand Scholarship when it was carried of by Miss Florence Holland, has this year succeeded in winning it.

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The last date for the submission of marks by the Entrance Exam-

iners is the 12th March, and for F. A. and B. A. Examiners the 17th March.

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The Entrance examination of 1897 will be held on the 28th and 29th January, and on the 1st, 2nd and 3rd February. The F. A. and B. A. examinations will be held on the 8th, 9th, 12th, 13th, 14th and 15th of March. The M. A. Premchand Roychand Studentship, B. L. and Honours in Law examinations of 1896 begin on the 16th November.

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Sylhet is in future to be a centre for the F. A. examination as well as for the Entrance. The Deputy Commissioner has promised to make all the necessary arrangements for the supervision of the work of examination.

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Babu Jadurall Sircar, M. A., has been appointed an examiner in the Entrance examination in English in the place of Babu Upendranath Maitra who has resigned.

* * *

The Registrar, the other day, had to report to the Syndicate that the present accommodation for the University Library is quite inadequate and must be extended. This looks as if the library were growing. It certainly needs large additions as it is at present quite unworthy of the University.

* * *

At a meeting of the Senate held on the 18th January Mr. Rowe succeeded in carrying the following motion :—"That it is expedient to appoint a Board of Revising Examiners, whose duties shall be to revise the questions set by the Examiner, in consultation with him, and to apportion the number of marks to be assigned to each subject or book on which questions are set in a paper."

* * *

The Senate, also on the recommendation of the Syndicate made certain alterations in the regulations for the F. A., B. A., and M. A. examinations by way of concession to candidates who fail to present themselves at one of these examinations but wish to appear subsequently. The alterations are as follows :—

(1.) In paragraph 4 of the Regulations for the First Examination in Arts, page 30, Calendar for 1895, (*a*) after the word "candidate" in the fourth sentence will be added the words, "who fails to pass"; (*b*) after the fourth sentence, be added the sentences: "A candidate who fails to present himself may be admitted to any one subsequent First Examination in Arts on payment of half the fee."

(2.) In paragraph 5 of the Regulations for the B. A. examination, page 34, Calendar for 1895, (*a*) after the word "candidate" in the fourth sentence, will be added the words, "who fails to pass"; (*b*) after the fourth sentence, be added the sentence: "A candidate who fails to present himself may be admitted to any one subsequent B. A. examination on payment of half the fee."

(3.) In the Regulations for the M. A. examination, pages 45 and 48, Calendar for 1895, (*a*) for the word "examined" in the second sentence of paragraph 3 will be substituted the words, "admitted to the examination;" (*b*) after the third sentence, in paragraph 3, and the second sentence in paragraph 12, will be added these sentences: "A candidate who fails to pass may be admitted to any one or more subsequent M. A. examinations on payment of a like fee of fifty rupees, on each occasion. A candidate who fails to present himself may be admitted to any one subsequent M. A. examination on payment of half the fee."

* * *

The Trustees of the Elliott Prize for Scientific Research have awarded the prize to Babu Jyoti Bhusan Bhaduri. The following is their report :--

Report of the Elliott Prize for Scientific Research for 1895.

The Trustees have received Essays from the following competitors for the prize :—

1. On the transformation of hypochlorites into chlorates by Jyoti Bhusan Bhaduri, M. A., Premchand Roychand Scholar.

2. On the wastage of gold in the course of preparing jewelry in Bengal, especially in "colouring" with explanations of interesting indigenous chemical processes and researches into the subject of recovering the gold that is lost, by Jnan Saran Chakrabarti, B. A.

The Trustees after consulting experts as provided in the scheme adjudge the prize for the year 1895 to Babu Jyoti Bhusan Bhaduri, M. A.

They also consider the Essay by Bubu Jnan Saran Chakrabarti, B. A., to be worthy of commendation.

A. CROFT.
ALEX. PEDLER. } *Trustees.*

Calcutta, 18*th January*, 1896.

BOMBAY.

The Government Gazette for the last month has been singularly devoid of educational news. The expected new professor of English Literature has not yet arrived from England. Meanwhile Mr. Barrett has gone and so new arrangements have had to be made. Mr. M. Macmillan will *pro tem* act as Professor of English Literature both at Elphinstone College, Bombay, and at the Deccan College, Poona, until

the arrival of Mr. Fraser, the new professor, who is now expected in March.

* * *

Professor Macmillan will lecture from Monday to Wednesday in Bombay and for the rest of each week in Poona. Thus each College will only get a half share of his services. On the other hand, we are glad to hear that, yielding to the entreaties of his colleagues and students alike, Mr. Macmillan has induced Government to allow him to remain in Bombay, and the new professor when he arrives will go to Poona. This has caused great rejoicing amongst the students of Elphinstone College.

* * *

The Hon'ble Mr. Justice Ranade's proposal that in all University examinations a student who obtains 45 per cent. in any paper shall be excused further examination in that subject, even though he fail to pass the examination, has now been before all the various faculties. The Engineers rejected it, the Medical and Legal faculties amended it in various ways, and the faculty of Arts by a majority of two, alone adopted it as it stood.

* * *

The Syndicate will now be able to frame an opinion upon the proposed measures, and we shall no doubt have some sort of scheme before the Senate before long. As it stands the proposed reform if carried out would undoubtedly have very bad effects.

* * *

It is absolutely essential that a student before he enters a college should be well versed in English, so as to be able to follow the lecturers. Consequently in the Matriculation the English papers are examined first, and if a candidate fails to satisfy the examiners here, his other papers are disregarded. Under this new scheme all will have to be carefully examined, and as the candidates number about three thousand, near half of which fail in English, this will entail a great deal of extra labour and expense.

* * *

Furthermore when an unsuccessful candidate has got his 45 per cent. in any particular paper, he will presumably drop the study of this subject at school, where his education will thus tend, much too early in his career, to become specialized. Another and opposite effect will be that his best subject in which he might ultimately have scored a high class in the B.A. examination will be neglected at the commencement of his career. So that undoubtedly the Matriculation should be exempted from the action of this measure.

* * *

The Hon'ble Mr. Justice Jardine, I.C.S., our present Vice-Chancellor, retires to England at the commencement of the next vacation after

holding the office for six months only. The problem of who is to succeed him will therefore soon trouble the mind of Government and call forth suggestions of all sorts from the public. If a native is to be appointed, it should undoubtedly be Mr. Justice Ranade, our 'prince of graduates,' as he has been justly styled.

* * *

If a European is desired, justice should be done to the colleges and an effort made to strengthen their position by appointing the head of a college to the Vice-Chancellorship. Such is the invariable rule at Cambridge and Oxford and Government might do worse than follow this ancient and illustrious example. The Vice-Chancellor should be a man intimately acquainted with the life and thought of the local University and the wants of its executive, the colleges. Dr. Mackichan, of Wilson College, has filled the post and filled it well, why should not other colleges be granted a like privilege? Foremost amongst college candidates stand Mr. J. T. Hathornthwaite, M.A., (*Cantab.*), Principal and Professor of Mathematics at Elphinstone College.

* * *

We deeply regret to have to record the death of an old and valued member of the Educational Department, Mr. Chester Macnaghten, M.A., Principal of the Rajkumar College, Rajkot, Kathiawar. Mr. Macnaghten was a graduate of Trinity College, Cambridge, from where he obtained a high second class in the Classical Tripos of 1866. At Rajkot he was a great success and in his long career he endeared himself to all his many pupils. He never ceased to interest himself in the welfare of those who had once been under him, and it is perhaps not too much to say that there is not a young chief in Kathiawar, who does not look back with pleasure to the days he spent at the "Kathiawar Eton" under the fatherly guidance of Mr. Macnaghten and who does not to-day lament his loss.

* * *

Mr. C. Waddington, the Vice-Principal of the College, who has acted several times during the absence of the late principal on leave, will most probably succeed to the appointment.

* * *

The list of new Fellows for the Bombay University has just appeared. They are as follows:—Mr. O. T. Barrow, I.C.S. (Acct.-Genl. Mr. T. J. Bennett (Editor of the *Times of India*); Mr. Manekji Seriaji Bharuche, L.C.E. (a graduate in engineering from the Poona College of Science and who in 1880 obtained the Merwanjee Framjee Panday Scholarship awarded to the candidate obtaining the highest number of marks in Mechanical Engineering); Rao Bahadur Alumal Trikamdas

Bhagvani, B. A. (of Elphinstone College from where he in 1867 graduated as a B. A., being placed in the second class); Surg.-Col. H. Cook, M. D. (who next month succeeds Dr. Turnbull as Surg.-General with the Government of Bombay.

* * *

Mr. Jehangir E. Davar (well known as one of the most energetic supporters of the Cercle Litteraire); Rao Saheb Madhavlal Harilal Desai, B. A. (1st class final B. A. 1877, and a graduate of Elphinstone College); the Rev. J. F. Gardner, M. A. (the popular Professor of History at Wilson College); Surg.-Capt. H. Herbert, F.R.C.S. (Professor at the Grant Medical College); Mr. Purshotam Balkrishna Joshi (a Marathi scholar of some distinction, who has of late devoted himself to the history of his race); the Rev. H. Kemp, S.J., Ph. D. (Professor of Chemistry at St. Xavier's College); Mr. James Macdonald (for many years head of the Scottish Schools in Bombay); Dr. Hormasjee Maneckjee Masina, L. M. and S. (in 1886 Charles Morehead prizeman for obtaining the highest number of marks in the L. M. and S. in Clinical Medicine); Khan Saheb Sadih Ali F. Mirza, B. A. (a graduate of Elphinstone College, 2nd class final B.A. 1872); H. E. Lt.-Genl. C. E. Nairne, C. B. (while Commander-in-Chief of the Bombay Army Genl. Nairne was a member of Council *ex-officio*, a fellow of the University, he has now ceased to be a Councillor and hence also lapsed from the list of fellows).

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Mr. Vishnu Raghunath Natu, B. A., LL.B. (of Elphinstone College, 2nd class final B, A. 1885, and 2nd class final LL.B. 1887); Mr. Shivram Bapuji Paranjpe, B.A. (of Deccan College, 2nd class final B.A. 1866); Mr. J. P. Phythian, C. E. (Principal of the Victoria Jubilee Technical Institute, Bombay); Mr. R. D. Prior, M. A. (*Cantab.*) (Principal of the Elphinstone High School, Bombay); Mr. E. B Raikes, M. A. (*Oxon.*) Bar.-at-Law; Mr. W. W. Squire, M. Inst. C. E. (Chief Engineer to the Port Trust, Bombay); The Hon'ble Mr. Justice Arthur Strachey, Bar.-at-Law (our new High Court Judge); Mr. Nusservanji Fakirji Surveyor, M. A., B. Sc., L. M. and S., M. D. (of Elphinstone College, 1st class final B. Sc. 1887, 1st class M. A. in Natural Science 1889, M. D. 1892, Chancellor's Medallist in Natural Science 1888); Mr. H. Wenden (a Civil Engineer).

* * *

In addition, the following have been nominated as Fellows by H. E. the Governor on the recommendation of the graduates who have the right of proposing annually two of their number. Mr. Gopal Krishna Gokahle, B. A. (of Elphinstone College, 2nd class final B. A. 1885);

and Mr. Manchashankar Jivanram Vakil, B. A., LL. B., (of Elphinstone College, final B. A. 1880, final LL. B. 1884). There were three candidates, the unsuccessful one being Mr. Nilkant Vinayak Chhatre, B. A., L. C. E. (of Deccan College, 2nd class final B. A. 1876, and 2nd class L. C. E, 1878).

* * *

We have but one comment to make on this list and that a very serious one. Why has the name of Mr. J. G. Covernton, M. A. (*Oxon.*) Professor of English at Elphinstone College, been omitted? It seems absurd and ridiculous that a first class Oxford man, holding the Professorship of English at the Presidency College should thus now for the second time be forgotten. For to no other cause is it possible to assign this anomaly. Surely a Government Professor should, if anybody, be *ex-officio* a fellow of the University in which he must from his very position take a leading part and be a member of the executive, fellow or not!

MADRAS.

Mr. R. Sewell, of the Madras Civil Service, has completed the publication of the Indian Calendar. His Excellency the Governor in congratulating Mr. Sewell on the completion of his book speaks in high terms of the valuable services rendered for many years by him in connection with the Archæology of this Presidency and the unwearying energy he has brought to bear upon this task.

* * *

In the Upper Secondary Examination held in December 1895 only 7 candidates passed the compulsory portion and only 4 who, having previously passed in certain of the compulsory subjects, came up and passed in the remaining compulsory subjects.

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The Rev. E. T. Davies, M.A., has resigned the Principalship of the Doveton College in order to take up the Principalship of the Ahmedabad College in the Bombay Presidency. We are given to understand that Mr. W. E. Hoare, M.A., Vice-Principal, Wesleyan College, has been appointed in the place of Mr. Davies.

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The following are extracts from the report of the Committee of the Doveton Protestant College for the year 1895:—" The number of boys attending College and Boys' Schools have increased by four. The College and Schools were inspected by Mr. E. Marsden, B.A., Inspector of

Schools, Central Circle, on Tuesday, the 12th March 1895. He reports as follows:—"This institution continues to do excellent work in all departments, and is, as regards attendance and the income from fees, in a more prosperous condition than it has been for a long time past. The examination results were in most cases very good. All the five students who were presented for the F. A. examination passed, and a percentage, fair in itself, and decidedly good when compared with that of the majority of schools in the Presidency, was successful in the Matriculation and Lower Secondary Examinations. The dress and manners of the pupils were good, and the discipline and tone excellent, so far as I could gauge them during the time I was in the College. Drawing is taught in all classes by a qualified master. In gymnastics I noticed considerable improvement over last year. The Instructor had evidently taken a good deal of pains. The building stands in great need of repair. The walls of the class rooms are very dirty, and should be colour-washed."

Mr. J. M. Twentyman's agreement expired on the 21st January 1896 and he was permitted to leave for England when the Christmas vacation commenced. Your Committee is endeavouring, in communication with Dr. Thom, the Rev. E. Sell and the Rev. W. Stevenson to obtain an English graduate to take his place. . . . Too much cannot be said in praise of Miss Keely, Mrs. Davies, Mr. B. H. Chester, and other ladies and gentlemen for the efforts made during the year to raise funds to meet the debt. The May Revels added Rs. 426-10, and the Doveton Fête Rs. 473-9 to the funds, for which your Committee is very thankful.

* * *

Miss Carr, Government Inspectress of the Western and Southern Circles, writes as follows of a Brahman child-widow of South Canara:—"Four years ago, a Brahman widow at Kassergode, in this district, brought her daughter (a child-widow of ten years of age), to me, and asked for her to be made a teacher. I got her a scholarship, and she first studied in the Mission School at Kassergode, and then went to the Government Training School at Calicut. She succeeded in getting a primary teacher's certificate, and is now employed as a teacher in the Canara Girls' School. She is still continuing to study and hopes to go up next year for the Lower Secondary Examination. If she passes I shall try and find means for giving her higher education. She is only fourteen now, and at twenty might be the means of being a power for good in this district."

* * *

The Board of Examiners of the College of Engineering, Madras,

suggested that the system of giving batta to students while undergoing a course of practical surveying in the field should be abolished. As students, it is thought, they ought to be able to afford the small extra expense entailed, and that the practical course of instruction in the field should be deferred until the theoretical part of the subject and the handling of instruments had been mastered. This matter having been referred to the Principal of the Engineering College by the Director of Public Instruction, he proposed that an additional fee of Rs. 8 should be levied from each student to meet the cost of his two periods in camp, that the sum so raised should be paid to the students in batta at a fixed rate of, say, 4 annas per day, that the Government meet the costs, as it does now, of instruments, pegs, ropes, &c., and the pay of lascars, and that the two periods now regularly spent in camp be each limited by a minimun of 16 and a maximum of 28 days.

* * *

Mr. W. S. Meyer, C. S., delivered a lecture at Rajahmundry the other day on "The bygone conflict between the East and the West," in the course of which he remarked that the cause of the utter overthrow of the East in recent times was that while the West had progressed on all lines the East had stood still. The boundaries of the civilized West which at the outset were represented by Greece and her colonies had immensely extended and not only included Europe but had by the discovery and occupation of America, Australia and South Africa, called a new world into existence to redress the balance of the old. Asia on the other hand had not extended her limits, nor made progress in education, science, methods of government, and material prosperity, which had given the European powers the means of maintaining and concentrating immense armies and powerful fleets armed with destructive appliances of which Asia had never dreamt.

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A lecture on "Etiquette among Hindu Ladies," was delivered in Tamil by a Hindu lady at the Chetty Girls' School on the 16th ultimo. About 20 Hindu ladies attended the lecture, and Mrs. Brander, Mrs. A. Wilson, Mrs. Subrahmanyam, Mrs. Peter and the Misses Oxley, Govindarajulu, Rajahgopaul, Shunmoogam and Authiammal were also present. The lecture was very interesting and listened to with much attention. After it a discussion on the subject was carried on among the ladies, and some information was asked for and given regarding English etiquette and customs. Some general conversation then took place and flowers wers distributed before the ladies dispersed.

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The Travancore Educational Department has adopted the excellent

Malayalam novel 'Marthandavarma', by Mr. C. V. Raman Pillay, as a text-book for the English schools in the State.

* * *

The Mechanical Institute of the College of Engineering, Madras, has received an addition to its stock in the shape of a new 100-ton testing machine. The concrete materials for its erection are being collected, and it is expected the machine will be in working order before the end of next month. A proposal to extend the workshop towards the south end of the existing building is under contemplation as the students are yearly increasing and the present accommodation is inadequate.

* * *

It is satisfactory to note that Moplah education is progressing. The three Moplah Training Schools under the Malabar District Board sent up, during the past year, thirty-four pupils for the primary examination, and all of them passed successfully.

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Mr. T. Sankara Row, B. A., an Assistant Lecturer in the Kumbakonam College, has published an interesting little book containing metrical translations, adaptations, &c., into Sanskrit, of short pieces taken from English poetry. Some of these pieces are: Goldsmith's 'Hermit,' Campbell's 'Soldier's Dream,' and Cowper's 'Alexander Selkirk.' There is also an "In Memoriam" on the late Professor Ranganatha Mudaliar. Mr. Sankara Row expects that his little book, abounding as as it does in illustrative examples of the more important rules of Sanskrit Grammar, will prove specially useful to College students, and foster in them a taste for Sanskrit study.

* * *

Type writing has been added to the list of commercial subjects and the first examination in this subject will be held on Saturday the 25th April next. Persons wishing to appear in this subject are referred to the notice published in the official gazette regarding the ensuing Government Technical Examinations to be held in April.

* * *

The Central College building has been added to lately. The additions are on the western side—towards the Central Jail—and consist of a good sized chemical laboratory and a spacious lecture theatre. There is a fine gallery fitted in this latter room which is fitted with benches rising tier above tier. A central flight of steps leads up, by which any tier may be reached. The whole work has been very satisfactorily completed.

* * *

The inaugural meeting of the Madras Teachers' Guild, which was of

a social character, was held on Saturday the 15th instant at 6 P.M., at the Christian College Hall. The business meeting of the Guild was held at 5 P.M. The Hon'ble Dr. D. Duncan, the Hon'ble Rev. Dr. Miller, Mrs. Brander and Miss Carr were unanimously elected honorary members. The officers elected in November last were re-elected, with the exception of Rev. E. T. Davies, who resigned the Treasurership and in his place Miss Arnold was elected Treasurer, and Miss Arnold's place in the Council was filled by Mr. V. S. Srinivasa Satri, B. A., L. T., of the Pachaiyappa's College. The social gathering was very largely attended and was presided over by the Rev. Dr. Miller. A varied and interesting programme consisting of music (instrumental and vocal) and recitations was gone through. Mr. Stone, the President of the Guild, made a statement regarding the work of the Guild. He referred to the opening of two Guild rooms, one in the Christian College and another in the Wesleyan College, which are to be supplied with periodicals chiefly educational. A course of lectures on educational subjects was being arranged. Another feature of the work was the visit of the members of the Guild to educational institutions. It was also proposed to establish a register of teachers and in that way to provide employment for qualified men. A library and educational museum was also in contemplation. Towards the library English firms such as Messrs. Macmillan and Co., and Messrs. Bell and Sons have already promised contributions of their publications. The Guild also contemplates holding educational conferences every year. The Chairman gave some sound advice to the members of the Guild. He thought that it was a good augury in many ways that such an Association had been called into existence. He called upon the younger members of the Guild to take up the work instead of allowing it to rest on the shoulders of just a few hardworked individuals. The Royapettah Guild room was opened formally on the 21st instant at which the Hon'ble Dr. Duncan, the Director of Public Instruction, was present.

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There were 320 students in St. Joseph's College, Trichinopoly, on the 31st March 1895. The majority of the students were Brahmins. Several districts were represented in the college and it is worthy of note that Tanjore with its two first grade colleges contributed as many as 90 students, the largest number from any district, including Trichinopoly itself. Physical education is receiving much attention.

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The strength of St. Peter's College, Tanjore, declined from 98 in March 1894 to 87 in March 1895. Hostels have been established in

connection with this College for Brahman and Native Christian students. Drawing has been introduced in two of the classes.

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The Presidency College Literary Society has arranged for the following course of lectures for this term.—" Education in Greece," by Rev. E. T. Davies, M. A.; " Philosophy of the Hindus," by M. R. Ry. N. Vaithinathaier Avergal, M. A.; " The Study of Geology (with special reference to India)," by Surg.-Capt. A. E. Grant; " Astronomy " (to be illustrated with the Magic Lantern), by Mr. E. W. Middlemast, M. A; " Technical Education," by Mr. Alfred Chatterton, B. Sc.; " The Abbe Dubois Studies of the Hindus," by Mr. H. K. Beauchamp. Dr. W. H. Wilson has also promised to deliver a lecture the subject of which will be announced later on.

PUNJAB.

The following Circular issued by Mr. Justice Roe, Vice-Chancellor of the Punjab University, will be read with interest. It is a pity the Vice-Chancellor had to issue such a reproof at all, and especially so soon after he took up his important office; but that it was very much called for there is not the shadow of a doubt, unfortunately. It is a long time before this and the next Convocation, and for this reason it would be well to re-issue the Circular a month or so before the next function. The Circular runs as follows:—

" The Vice-Chancellor greatly regrets to have to call the attention of the under-graduates of the Punjab University to the grave impropriety of the behaviour of the majority of those of them who attended the Convocation. The noise in the gallery throughout the proceedings, but especially during the delivery of the Vice-Chancellor's Address, was so great that it was impossible for persons in the body of the hall to hear what was said.

The Vice-Chancellor trusts that this noise was due merely to thoughtlessness—to each under-graduate talking in a low tone to his neighbour, under the mistaken idea that he was making no noise whatever; he trusts that it was not due to any intentional discourtesy on the part of the under-graduates. It would be a great misfortune if the students of the Punjab University were to abandon the courtesy of manner for which the East has been proverbial from time immemorial, and were to imagine that, in imitating Western rudeness, they were imitating Western independence.

But whatever may have been the cause of the interruption, it is clear that the interruption itself cannot be permitted to continue. The Convocation is not a spectacle or entertainment, it is a formal assembly of the University for the discharge of its

highest duties, and its proceedings must be conducted with all the decorum suitable to the occasion.

The Vice-Chancellor trusts that it is only necessary to point out to the under-graduates the fault that has been committed, and that it will not be repeated. If it is repeated it may be necessary for the University to exclude altogether from its Convocation those of its members who have shown themselves unfit to take part in it."

* * *

Brief reference was made in the Punjab notes of last month to a proposal made by the Rev. S. S. Allnutt, Principal of the St. Stephen's College, Delhi, to open law classes in connection with that institution. The matter has developed rapidly since then, and it is causing no inconsiderable amount of interest, more than seems quite warranted under the circumstances, perhaps. In the usual course the question came before the Law Faculty, when it was decided that the scheme could not be recommended to the Syndicate. At a Syndicate meeting held a month later the battle was fought over again, with a similar result, but the advocates and opponents were so evenly balanced that the rejection was brought about by the casting vote of the Vice-Chancellor. The matter does not end here, as the Rev. S. S. Allnutt and six other Fellows of the University have applied for a special meeting of the Senate for the purpose of considering the advisability of establishing the law classes at Delhi. The Syndicate has agreed to this, and on the 21st instant will submit its decision for confirmation.

* * *

Coming in conjunction with all this, another sensation awaited those interested in the legal course of studies required by the University. The examination for the degree of LL. B. is an exceedingly severe one, the University requiring proficiency of a very high degree for its highest law test. This year fifteen candidates appeared, but only one has been declared successful. Forthwith comes a demand for a revision of results. Of course, there are precedents for such a procedure. Whether the Vice-Chancellor will agree to a re-examination of the papers remains to be seen. The results are, no doubt, disastrous, and it is believed, unprecedented; but there is much to be said against revision.

* * *

The first Athletic Sports Tournament, which it was originally intended should be held in December 1895, has been postponed to some date in November or December 1896. Meanwhile, a strong Sub-Committee consisting of the Vice-Chancellor, the Director of Public Instruction, the Rev. J. C. R. Ewing, Principal of the Forman Christian College, Mr. P. C. Dallinger, of the Government College, Pandit Hari Kishen Kaul, a member of the Punjab Provincial Service, and Dr. Stein,

the Registrar of the University, has been appointed to work various details. The University is keeping the scheme in its own hands, and it will be a noteworthy step in the direction of physical training if the province generally responds to this effort.

* * *

Mr. Justice Protul Chandra Chatterji, M. A., Rai Bahadur, has offered an annual prize of Rs. 50 for a Sanskrit poem, to be competed for by students of the Punjab University. The poem is to be on some subject connected with Indian life, thought or history, and falling within the range of classical Sanskrit poetry.

* * *

The Report on Public Instruction in the Punjab for 1894-95, somewhat late in making its appearance unfortunately, is a very bulky volume. Mr. Sime's report itself extends to 101 pages, the appendices extend to another 111, while the tables occupy another 29, all 241 being of foolscap size. In reviewing the publication, the Lieutenant-Governor thought " that it might with advantage have been made shorter ; " and perhaps this is true as far as the numerous appendices are concerned. With the text of the report, however, one would be sorry to see any considerable curtailment, especially, as in this case, when the opportunity is taken to review the progress of a period covering five years.

* * *

The number of public schools has risen during the five years by over 25 per cent., taking into consideration the fact that out of the increase of 851 institutions 665 schools, hitherto returned as private schools, were transferred during 1894-95 to the head of public schools, under which head they should always have been shown, as they are examined for grants. This fact spoils comparison somewhat. Taking both public and private institutions together, however, we stand at present with 8,642 educational institutions, giving instruction to 258,761 scholars, or to 8·26 per cent. of the children of school-going age. Of the whole number of scholars, 233,385 are males, or 13·82 per cent. of school-going age, and 25,376 females, or 1·76 per cent. The number of colleges has increased from 8 to 10 ; but the attendance on all the colleges has risen from 545 to 1,214, or by over 122 per cent.

* * *

Female education is making steady progress. The number of public schools for girls has risen by 12 per cent. during the past five years, the number of scholars by 32 per cent., and the number of passes by the public examination standards has more than doubled. Needle-work has made progress, and the number of children under training for Teachers' Certificates is increasing. " But," Mr. Sime notes, " the most marked advance

has been in the growth during the last year or two, of private effort on behalf of female education, resulting in the opening of several Unaided Schools, and implying that, at least in some quarters, the apathy and opposition hitherto prevailing are beginning to disappear."

REVIEWS OF BOOKS.

A SPOILT GIRL. By Florence Warden, London: *George Bell and Sons.*

This is an impossible story. It is as like to real life as the Harlequinade at the Pantomime is to the life in London Streets, but as the fate of Pantaloon produces a hearty laugh so this book may have its uses as a relaxation from graver studies, for we must admit that the story is told with vigour and that we did not lay the book down until we reached the last page. The characters are the daughter and four sons of a Kentish Baronet of old family, who ignore the existence of a rural police and of Petty Sessions and play pranks which culminate in the catastrophe of highway robbery and murder, whereupon three of the sons fly beyond the seas and the remaining son and daughter reform. That the book is written by a lady is evident at every page. The Baronet's four sons and daughter always ride at full gallop, even on the high roads, and their horses, thus continually ridden at full gallop, are nevertheless fresh enough to leap stone walls. One of the sons invariably carries a clasp knife with him, even when on his way home from a Ball, and with this clasp knife he can rapidly cut the traces of carriages or of carrier's carts. We think that if the fair authoress had ever tried to cut a slack trace with a knife she would not have described it as so speedy an operation. We especially admired the final scene where the heroine, pursued by the police, clears the park wall, which is surmounted by barbed wire (!), and gallops off to warn her three brothers, whom she sends out to sea in an open boat in the hope of meeting a friend's yacht, which is cruising on the coast. But one does not criticize the conduct of clown and policeman in the pantomime, so let us read the plot of this book for amusement only and refrain from criticism.

THE LIGHT OF SCARTHEY. By Egerton Castle. London: *George Bell and Sons.*

This is a thrilling book for readers, who like plenty of adventure, and are not particular about whether the adventures are probable. The book has been highly praised, so there must be some people who like

this sort of thing. We read patiently through a medley about the Chouan revolt against the French Directory, about a Press Gang, and Privateers, and a gloomy Baronet, and duels at Bath, but when we came to the description of a French girl, only six months out of a Convent school, galloping her horse among the quicksands of Morecambe Bay and escaping with her life, although the horse was engulphed, we found it difficult to read any further. We know something about that coast, and when on page 200 we read of "a beautiful ship with all sails set" close inshore on these sands we wondered if the skipper of that craft was a lunatic, but on page 227 we found that this ship is a rakish smuggling schooner, and our anxiety was relieved. Perhaps a smuggler bound for France, was wise to load up on the sands of the Lancashire coast, because that is the last place where Revenue officers would look for him, but the Preventive Service does appear on the scene in good old fashion, and then the plot thickens, the gloomy Baronet's brother being the villain of the piece. Our chief feeling after perusal of this volume is sincere thankfulness that none of our acquaintances are like the people in this book.

A Hard Woman. By Violet Hunt. A Soul Astray. By Mrs. Lovett. London: *George Bell and Sons*. (In Bell's Colonial Library).

In her latest work *A Hard Woman*, Miss Violet Hunt has depicted a character worthy to rank with some of the creations of the great writers of fiction. Lydia Munday *nêe* Barker, daughter of a wealthy stockbroker, is the person whose progress is chronicled in this work, and around whom all the interest gathers.

An earlier novel of the authoress was entitled *The Maiden's Progress*. This work might fittingly be named the *Progress of Lydia Munday*. Lydia is a particularly up-to-date woman. Superior to such absurdity as love, she induces a rising artist to propose to her, and marries him to get away from the dull monotony of Bloomsbury to the more congenial atmosphere of Mayfair.

Ferdinard Munday is not only a successful artist, but a man of good family; he is devoted to his work, and some time elapses before he realises what manner of woman it is he has wedded. Having attained the purpose of her marriage, Lydia gives effect to her views of the institution by hunting up from the slums a girl of a Burne Jones type of beauty to replace a model of her husband who has left him. The new model has various functions to perform; the principal one is to distract the husband while the wife carries on her flirtations. She also makes herself generally useful to the wife in her social duties. This

model, Nevile France by name, is apparently a lady by birth, but through poverty has drifted into earning a precarious livelihood by type-writing, and as secretary to an editor of a low class paper. In her own selfish way Lydia is kind to the girl, in some respects far kinder than a better woman would have been; but beneath all lies the undercurrent of callous selfishness.

Among her new surroundings Mrs. Munday meets the Hon. Cosmo Davenant, generally considered a "bad lot" by his acquaintances. She philanders with this man, and to some extent compromises herself—on paper. An excursion together at a seaside town, in which both are nearly drowned by the in-coming tide, reveals to her the fact that this man whom she fancies she cares for is an arrant coward, and henceforth she "cuts" him and pays the penalty—so common in fiction, and not unknown in real life—of a threat that he will reveal the contents of her amorous letters to their mutual female acquaintances.

While the wife is thus engaged, the neglected husband has unconsciously gained the affections of his new model. She confesses the fact to Lydia who treats it with indifference; but Nevile France refuses to remain, and gains a position on the stage. After a brief period of matrimony the house of Munday gets involved in serious difficulties, through the extravagances, and financial speculations of Lydia. The husband, absorbed in his art leaves all his affairs to his wife on the strength of her belonging to a business family. Shortly after marriage the conversation turns on household management, thus:—*Mrs. Munday.*—"There are you, an unprovident man of genius; here am I, a practical woman of business, ready to take care of our money matters, and save you the trouble, and the tiresome details—". *Munday.*—"You want to hold the purse-strings? Oh, all right! I suppose it is an inherited instinct with you. Go ahead, only don't move your head for a moment. You are splendid just like that."

So the artist not only leaves her entire control of her own fortune, but hands her over all that he makes by his pictures: only revolting when she tries to make him paint inferior pictures in order to make money rapidly. Lydia's speculations fail, her creditors are importunate, she sells pictures and artistic furniture belonging to the house, her jewelry, and all she can lay hands on without detection. When remarks are made by Ferdinand she lies to account for their absence, and when lies no longer avail her, she breaks down and throws herself on his mercy.

His generous treatment inspires her with a faint flicker of affection; as much as such a nature is capable of, and she asks for his love; but too late, and the scene closes with the husband passively submitting to

the wife's embrace while he gazes over her shoulder at the unfinished picture of Fiametta for which Nevile France has posed.

To give a full description of this very bright and clever book would occupy many pages. The story is partially told by a Mr. St. Jerome, an intimate friend, and possibly an old admirer; but the greater part is in dialogue form; in fact the book is a happy combination of novel and play there is not a dry chapter in it. The prevaling note of the work is the cynicism of the fashionable world interspersed with a few very pathetic touches. Those who seek humour will find it in the interview between Lydia and St. Jerome regarding the publication of her novel. As a work of fiction, illustrative of society at the end of the Nineteenth Century, this book will, and should be widely read. Books "with a purpose" are rife. Whether *A Hard Woman* is intended to point a moral is open to question The moral—if moral there be—is to show the danger of marriage for selfish purposes; this fact is obvious without the special devotion of three hundred odd pages of dialogue. A woman of the type of Lydia might have married for love, but would never have remained constant, we do not say faithful. Women of her composition are seldom technically unfaithful except for "value received." Born of humble parents her rôle in life would have been that of a leader of the demi-monde, and she would have played it to perfection. When money troubles come she clings to her husband as a prospective earner of wealth to gratify her desires for social distinction. As many miserable marriages commence with love as without it, and this book appears to be merely a clever and amusing sketch of a woman whose attractions lie in her dowry, her face, and piquant conversation, it is as this, and as nothing more that the work will—if it has not done so already—attain popularity.

A curious contrast to *A Hard Woman* is *A Soul Astray*. Beyond the fact that one of the events related is of our own times, the tale might have been one of the early part of the century.

To some readers the essence of a book is a well-defined plot; they will be gratified here. A flavour of melodrama pervades the work. The scene opens in the neighbourhood of a spot which is described as an old Royal demesne called Cramer Forest. The authoress has spared us the infliction of too much local dialects, and the few pieces given do not serve to identify the locality. The tale begins with the leaving of an infant at the door of a yeoman farmer by the name of Hardy, which infant is the child of his sister by a gipsy. The gipsy lass, Tilla Hardy, growing up, falls in love with her cousin Steeve, son of the old yeoman, who does not recipcrocate, being engaged to Mary Clover, daughter of a

neighbour, and employed as governess at Netherby Park the seat of the Earl of Netherby. Tilla resents the slighting of her beauty, and finding herself alone with Steeve one day makes violent love to him with suitable dramatic action. They are surprised by a farm servant, who places the construction upon the scene which later on Tilla desires. Being repulsed by Steeve, the damsel, to revenge herself, listens to the temptations of a younger son of Lord Netherby, described as Lord Ralph. (Why "Lord" is not apparent as, he is the younger son of an Earl. Perhaps the authoress considers that a girl who surrenders her virtue to a man whom she detests—Tilla is shewn to have this feeling towards her seducer—would be likely to draw the line at a mere Honorable.) However to resume: the result of her liaison is a child, which she fathers on Steeve Hardy, whose father compels him to marry the girl. He does so, leaves her at the church door, proceeds to South Africa where he is engaged in one of the small wars. Here he meets *Lord* Ralph serving in the Mounted Police, and rescues him. The villain loses his sight, returns home, and repents; Tilla is murdered by a gipsy relative; Steeve returns, and marries Mary Clover, and all ends happily in the good old style.

The book is readable; but much of it is dry. As before we said it has a plot, this combined with a seduction and a murder will commend it to a fairly large class of novel readers. The story is well told, and the interest sustained. In the dedication it is stated to be an "episode in real life." It will strike a thoughtful reader as a peculiar incident, that a young woman, considered sufficiently intelligent to instruct the daughters of a nobleman, should share the yokel's superstition regarding the possession of a soul by gipsies. Had she disbelieved in the existence of souls at all it would be intelligible; but we presume that most educated people of the present day know that all human beings are built much on the same lines. The episode of the seduction of Tilla appears untrue to life; but the ways of women are mysterious, especially when in love.

There are no passages in the book which seem specially worthy of reproduction in a review. There are books which even a reviewer is not content to skim through, but can joyfully read over and over again. This is not one of them.

MATHEMATICS.

NOTE ON "A MATHEMATICAL FALLACY"

By Professor T. R. Venkatasami Naidu.

The Mathematical fallacy of Mr. E. W. M. in the September number of the Journal will appear in its true light when put in a more general form.

Let x be any positive quantity as before, and let y be a positive quantity not greater than e^x, so that neither ye^{-x} nor $\frac{y}{1+y}(1-e^{-x})$ is greater than unity.

Then $\log(1+ye^{-x}) = ye^{-x} - \frac{1}{2}y^2e^{-2x} + \frac{1}{3}y^3e^{-3x} - \ldots\ldots\ldots$

$$= y\left(1-x+\frac{x^2}{\underline{|2}}-\ldots\right) - \tfrac{1}{2}y^2\left(1-2x+\frac{2^2x^2}{\underline{|2}}-\ldots\right) + \tfrac{1}{3}y^3\left(1-3x+\frac{3^2x^2}{\underline{|2}}-\ldots\right)$$

$$= (y-\tfrac{1}{2}y^2+\tfrac{1}{3}y^3-\ldots) - yx(1-y+y^2-\ldots) + \frac{yx^2}{\underline{|2}}(1-2y+3y^2-\ldots) - \ldots (A.)$$

Again $\log(1+ye^{-x}) = \log\{1+y-y(1-e^{-x})\}$

$$= \log(1+y) + \log\left\{1-\frac{y}{1+y}(1-e^{-x})\right\}$$

$$= \log(1+y) - \frac{y}{1+y}\left(x-\frac{x^2}{\underline{|2}}+\ldots\right) - \frac{1}{\underline{|2}}\,\frac{y^2}{(1+y)^2}\left(x-\frac{x^2}{\underline{|2}}+\ldots\right)^2 - \ldots\ldots$$

$$= \log(1+y) - \frac{yx}{1+y} + \frac{yx^2}{\underline{|2}(1+y)^2} - \ldots\ldots (B.)$$

On comparing the two results we find that they are algebraically the same, the infinite series $y-\frac{1}{2}y^2+\ldots$, $1-y+y^2-\ldots$, $1-2y+3y^2-\ldots$ &c., occurring in the former instead of $\log(1+y)$, $\frac{1}{1+y}$, $\frac{1}{(1+y)^2}$ &c., in the latter. But while (B) is convergent, the component infinite series in the double series (A) are so only when y is a proper fraction. The reason why such divergent series are arrived at although we started with an arithmetically intelligible expansion is that in rearranging the terms we have lost the original form of the double series in which the component infinite series and the whole were convergent; the double series being one not absolutely convergent.

But the real question to be answered is wherein consists the error in inferring that the two results are equivalent even when y is not a proper fraction? It has only to be pointed out that the principle of Indeterminate Co-efficients is applicable to infinite series only when they are convergent, and (A) is not such a series. Indeed it cannot be shewn that (A) and (B) are arithmetically equivalent when y is not a

proper fraction, for then (A) is meaningless. We may vary the explanation by saying that the principle of indeterminate co-efficients assumes the co-efficients to be finite, which is not the case in (A) when y is not a proper fraction.

Solutions of Questions.

93. (*C. K. Balasubramania Aiyar.*) Find an expression for numbers which when divided by 3, 5, 7, 9 and 11, leave the respective remainders 1, 2, 3, 4 and 0.

Solution by A. Radhakrishna Aiyar, B.A.,

We have simply to solve the following equations in integers

$$3x+1=5y+2=7z+3=9u+4=11v.$$

Solving $3x+1=11v$ in integers, we get either side $=33k+22$.

Now equating this expression to $5y+2$, it is easily seen that $k=5l$, since k must be divisible by 5.

Equating again the resulting expression $165l+22$ to $9u+4$, $l=3m$, as $3l$ must be divisible by 9.

Lastly, equating $495m+22$ to $7z+3$, we see that either side is equal to $3465n-473$, where n is any integer.

Therefore all the required numbers are included in the expression

$$3465n-473.$$

94. (*S. Padmanabha Aiyar, B. A.*) Integrate

$$\frac{x^2}{a}+\frac{y^2}{b}=\frac{a-b}{a+b}\cdot\frac{x-py}{x+py}, \text{ where } p=\frac{dy}{dx}.$$

Solution by V. Ramaswami Aiyar, M. A.

We know that $\frac{x-py}{x+py}=\frac{d\,(x^2-y^2)}{d\,(x^2+y^2)}$; this suggests the transformation $x^2-y^2=2v$, $x^2+y^2=2u$;

on reduction we get $\frac{dv}{du}+\frac{a+b}{ab}v=\frac{(a+b)^2}{ab(a-b)}u$; which is in the linear form; completing the solution we get finally

$$\frac{x^2}{a}+\frac{y^2}{b}-1=C.\,e^{-\frac{a+b}{ab}\cdot\frac{x^2+y^2}{2}}.$$

In particular the given equation is satisfied at all points of the conic

$$\frac{x^2}{a}+\frac{y^2}{b}=1.$$

103. (*T. Roque.*) If n be a positive integer, prove that

$$nx^{n+1}-(n+1)\,x^n+1 \text{ is divisible by } (x-1)^2.$$

(1.) *Solution by A. Radhakrishna Aiyar, B. A.*

Put $$x=1+y.$$

Then the expression becomes

$$n\,(1+y)^{n+1}-(n+1)\,(1+y)^{n}+1.$$
$$=n\,(1+\overline{n+1}y+Ay^2+\ldots)-(n+1)\,(1+ny+By^2+\ldots)+1.$$
$$=y^2.Q.$$

Thus the expression is divisible by y^2 or $(x-1)^2$.

(2.) *Solution by R. Ramachandra Row, B. A.*

Let $f(x)\equiv nx^{n+1}-(n+1)\,x^n+1=nx^n(x-1)-(x^n-1)$ then

$$f'(x)=n\,(n+1)\,x^n-n\,(n+1)\,x^{n-1}=n\,(n+1)\,x^{n-1}(x-1).$$
$$f(1)=0, f'(1)=0$$
$$\therefore f(x) \text{ is divisible by } (x-1)^2.$$

(3.) *Solution by P. V. Roberts, and others.*

$$nx^{n+1}-(n+1)\,x^n+1$$
$$=nx^{n+1}-nx^n-x^n+1$$
$$=(nx^{n+1}-nx^n)-(x^n-1)$$
$$=nx^n(x-1)-(x-1)\,(x^{n-1}+x^{n-2}\ldots+x^2+x+1)$$
$$=(x-1)\,(nx^n-x^{n-1}+x^{n-2}\ldots+x^2+x+1)$$
$$(x-1)\{(x^n-x^{n-1})+(x^n-x^{n-2})+(x^n-x^{n-3})\ \ldots\ldots\ldots+(x^n-x^2)$$
$$+(x^{n-2})+(x^n-1)\}.$$

and obviously $(x-1)$ is a factor of each of the expressions within the large bracket.

$\therefore\ (x-1)^2$ will divide the given expression, the quotient being

$$1+2x+3x^2+\ \ldots\ +nx^{n-1}.$$

104. Solve the equations :—

$$(x+y)^{\frac{1}{3}}+(y+z)^{\frac{1}{3}}+(z+x)^{\frac{1}{3}}=0 \quad \ldots \quad \ldots \quad \ldots \quad \text{I}$$
$$x^{-1}+y^{-1}+z^{-1}+\frac{3}{10}=0=xyz-80. \ \ldots \quad \ldots \quad \text{II \& III.}$$

Solution by A. Radhakrishna Aiyar, B. A., and others.

From equation I. we have

$$2\,(x+y+z)=3\,(x+y)^{\frac{1}{3}}(y+z)^{\frac{1}{3}}(z+x)^{\frac{1}{3}}.$$

If x, y, z be the roots of the equation

$$u^3+p_1u^2+p_2u+p_3=0 \quad \ldots \quad \ldots \quad \ldots \quad \text{A}$$

we get from this result,

$$-2p_1=-3\,(p_1+x)^{\frac{1}{3}}(p_1+y)^{\frac{1}{3}}(p_1+z)^{\frac{1}{3}}.$$
$$=-3\{p_1^3+p_1^2\Sigma x+p_1\Sigma xy+xyz\}^{\frac{1}{3}}.$$
$$=-3\{p_1p_2-p_3\}^{\frac{1}{3}}.$$

From II and III., we get

$$\frac{p_2}{p_3}=\frac{3}{10} \quad \text{and} \quad p_3=-80 \quad \ldots \quad \ldots \quad \ldots \quad (\alpha)$$

$$\therefore \quad p_2=-24 \quad \ldots \quad \ldots \quad \ldots \quad (\beta)$$

$$\text{and} \qquad p_1{}^3+81\,p_1-270 \quad \ldots \quad \ldots \quad (\gamma).$$

Thus to find x, y, z, we have to solve the cubic equation A, the value of p_1, p_2 and p_3 being known from the equations (α), (β) and (γ).

If p_1 is taken equal to 3, equation A is reduced to

$$u^3+3u^2-24u-80=0,$$

whose roots are -4, -4 and $+5$.

Questions for Solution.

121. (*T. Roque.*) If x and y are not of opposite signs, prove that $(x\Sigma a^2+y\Sigma ab)^2>8xy\Sigma a^2b^2$ for any number of quantities a, b, c. ...

122. (*G. Rama Aiyangar, B. A.*). Solve :—

$$\frac{a^3}{x}+3yz=\frac{b^3}{y}+3zx=\frac{c^3}{z}+3xy=yz+zx+xy.$$

123. (*T. Sundara Row, B. A.*) On the sides BC,CA,AB of a triangle ABC, points D,E,F are taken such that BD,CE and AF are in a given ratio $m:1$ to the respective sides. BE,CF and AD cut each other in order in G_1, G_2 and G_3. Prove that

$$(1) \qquad \frac{EG_1}{CG_1}=\frac{FG_2}{AG_2}=\frac{DG_3}{BG_3}=m$$

$$(2) \qquad \frac{CG_1}{CF}=\frac{AG_2}{AD}=\frac{BG_3}{BE}=\frac{m}{m^2-m+1}$$

$$(3) \qquad AD^2=m\,(m-1)\,a^2+mb^2-(m-1)c^2.$$

124. A candidate is examined in three papers to each of which is assigned a maximum of m marks. His total on the three papers is $2m$. Shew that there are $\frac{1}{2}\,(m+1)\,(m+2)$ ways in which this can occur.

—(*Madras M. A.* 1890.)

125. (*N. Ganapati Subban, B. A.*) Given two sides of a triangle in position and the sum of those sides, find the locus of the centre of the nine—points circle of the triangle.

126. (*A. Radhakrishna Aiyar, B. A.*) If a point P on an hyperbola be joined to its foci S and S′ meeting a confocal ellipse in P and Q respectively, prove that QS and PS′ also meet on the same hyperbola.

127. Prove that

$$\frac{\pi^2}{8}=1+\frac{1}{2}\cdot\frac{1}{3}+\frac{1}{3}\cdot\frac{1\cdot2}{3\cdot5}+\frac{1}{4}\cdot\frac{1\cdot2\cdot3}{3\cdot5\cdot7}+\ldots\ldots \quad \text{—(\textit{Mathesis.})}$$

128. (*C. S. Mahadeva Aiyar, B. A.*) A square lamina rotates in a vertical plane about one corner which is fixed in the surface of a liquid.

Shew that as long as the lamina is entirely immersed, the locus of the centre of pressure is part of the curve $(3x^2-7a^2)^2=9y^2(2a^2-x^2)$, $2a$ being a side of the square.

129. (*K. V. Natesa Aiyar, B. A.*). Prove that

$$1-\frac{1}{2}+\frac{1}{3}-\frac{1}{4}+\ldots\ldots-\frac{1}{2m}+\frac{1}{2m+1}=\frac{1}{m+1}+\frac{1}{m+2}+\ldots\ldots+\frac{1}{2m+1}$$

130. Required the latitude of the place and the declination of the sun, when the length of the day is to that of the night as 3 to 2; and the sun's meridian attitude to his depression at midnight is as 2 to 1.

—(*The Educational Times.*)

NOTIFICATIONS.

BOMBAY.

The following is published at the request of the Director of Public Instruction. Bombay.

No. 371 A.—1448 of 1894.

Public Works Department.

BOMBAY CASTLE,
8th September 1894.

Memorandum from the Superintending Engineer, Southern Division, No. 2317, dated 22nd June 1894.

Under the Public Works Code, Provisional Issue, Chapter II., para. 87, reports, for the information of Government, that the temporary out-houses, designated as servants' quarters, attached to the Assistant Collector's bungalow, wooden house at Koney (Kárwár), Item 10 of the printed list of Public Buildings in the Kánara District, were completely burnt down on the 10th April 1894. States that the cause of the fire is due to the grass stored in one of the four rooms contained in this building, by the Assistant Collector, Mr. N. B. Divatia. Offers remarks; and requests sanction to strike off the building from the return, and reduce the book value by Rs. 230 (being the original cost of construction of the servants' quarters). Adds that, as the temporary out-houses of this bungalow and others in Kárwár cost a considerable sum to repair each year, estimates have been called for of the cost of constructing something more permanent, and are under consideration, and for this reason it does not seem necessary to consider whether the Assistant Collector should be held responsible for the loss of the rooms.

Memorandum from the Revenue Department, No. 7047, dated 23rd August 1894.

Re-transfers the papers, forwarded with this Department No. 974 A., dated 19th July 1894, together with a memorandum from the Commissioner, Southern Division, submitting Mr. Divatia's report, endorsed by the Collector of Kánara, and stating that he (Mr. Nugent) concurs with Mr. Davidson in thinking that Mr. Divatia cannot be held to have contributed to the loss by fire of the building in question; that grass was apparently stored, without his knowledge, in the servants' room,

whilst he was absent on tour, and food was being cooked by a sweeper, contrary to his orders, in an adjacent room, and the fire used for the cooking seemingly caught the dry grass.

RESOLUTION.—The building should be sruck off the return.

2. It must be understood that Government expect their tenants to exercise due care in such matters; and a rule should be added to those circulated with Government Resolution No. 198 C. W.—1074, dated 15th July 1894, forbidding the storage of grass, or of quantities of other inflammable materials, in any portion of a Government residence or its out-houses, excepting such as may be specially set apart for the purpose.

No. 53 A.—160 of 1896.

Public Works Department.

BOMBAY CASTLE,
1st *February* 1896.

Memorandum from the Superintending Engineer, Southern Division, No. 4880 dated 16th November 1895, as under:—

This office No. D.—994, of 25th September 1895.
District Judge's No.1994, dated 14th November 1895.

"The undersigned presents compliments and, in forwarding copies of correspondence, marginally noted, between himself and the District Judge of Dhárwár, has the honor to request the decision of Government whether firewood and waste paper (in large quantities) come within the terms of para. 2 of Government Resolution No. 371 A.—1448, dated 8th September 1894. The question seems superfluous but for the opinion expressed by the District Judge."

Memorandum from the Superintending Engineer, Southern Division, No. D.—1408, dated 11th December 1895.

With reference to Government memorandum No. 1710 A., dated 23rd November 1895, forwards copy of a letter from the Executive Engineer, Dhárwár District, submitting a block plan showing the position of the rooms used for the storage of firewood and waste paper; and states that the block of out-houses is quite close to the main Court-house, which is a large building containing presumably valuable records.

RESOLUTION.—The Superintending Engineer, Southern Division, should be informed that waste paper and large quantities of firewood fall within the definition of inflammable materials in para. 2 of Government Resolution No. 371 A.—1448, dated 8th September 1894, which, however, referred to Government residential buildings.

2. It is, however, equally desirable that all reasonable precautions should be taken to avoid the risk of fire in Government offices, and the practice of storing waste paper in any Government office building or out-house should, where it now exists, be at once discontinued. Iron bins placed in the compound would appear to be the most suitable receptacle for waste paper, the stock of which should not be allowed to accumulate. Firewood, which is only likely to be stored in any quantity as attached property, should be kept isolated as far as possible.

G. O. W. DUNN,
Under Secretary to Government.

EXAMINATIONS FOR THE CIVIL SERVICE OF INDIA.

The following are the revised regulations for the Indian Civil Service Examination:—

An open Competitive Examination for admission to the Civil Service of India will be held in London, under the subjoined regulations, commencing on the 3rd August 1896.

The number of persons to be selected at this Examination will be announced hereafter.

No person will be admitted to compete from whom the Secretary, Civil Service Commission, has not received on or before the 1st June 1896, an application on the prescribed form, accompanied by a list of the subjects in which the candidate desires to be examined.

The Order for Admission to the Examination will be posted on the 21st July 1896 to the address given on the Form of Application. It will contain instructions as to the time and place at which candidates will be required to attend, and as to the manner in which the fee (£6) is to be paid.

Civil Service Commission October 1895.

REGULATIONS.

The following regulations, made by the Secretary of State for India in Council, are liable to alteration from year to year.

1. An Examination for admission to the Civil Service of India, open to all qualified persons, will be held in London in August of each year. The date of the Examination and the number of appointments to be made for each province will be announced beforehand by the Civil Service Commissioners.

2. No person will be deemed qualified who shall not satisfy the Civil Service Commissioners:—

(i) That he is natural-born subject of her Majesty.

(ii.) That his age will be above twenty-one years and under twenty-three years on the first day of the year in which the examination is to be held.

(iii.) That he has no disease, constitutional affection, or bodily infirmity unfitting him, or likely to unfit him, for the Civil Service of India.

(iv.) That he is of good moral character.

[*N. B.*—In the case of natives of India it will be necessary for a candidate to obtain a certificate of age and nationality signed, should he be a resident in British India, by the Secretary to Government of the Province, or the Commissioner of the Division within which his family resides, or should he reside in a Native State, by the highest political officer accredited to the State in which his family resides.]

3. Should the evidence upon the above points be *primâ facie* satisfactory to the Civil Service Commissioners, the candidate, on payment of the prescribed fee, will be admitted to the Examination. The Commissioners may, however, in their discretion, at any time prior to the grant of the Certificate of Qualification hereinafter referred to, institute such further inquiries as they may deem necessary; and if the

result of such inquiries, in the case of any candidate, should be unsatisfactory to them in any of the above respects, he will be ineligible for admission to the Civil Service of India, and if already selected, will be removed from the position of a probationer.

4. The Open Competitive Examination will take place only in the following branches of knowledge :—

	Marks.
English Composition	500
Sanskrit Language and Literature	500
Arabic Language and Literature	500
Greek Language and Literature	750
Latin Language and Literature...	750
English Language and Literature (including special period named by the Commissioners)	500
French Language and Literature	500
German Language and Literature	500
Mathematics (pure and applied)	900
Advanced Mathematical subjects (pure and applied ...	900

National Science—*i.e.*, any number not exceeding *three* of the following subjects :—

Elementary Chemistry and Elementary Physics. (*N.B.*—This subject may not be taken up by those who offer either Higher Chemistry or Higher Physics.)	600	1,800
Higher Chemistry	600	
Higher Physics	600	
Geology	600	
Botany	600	
Zoology	600	
Animal Physiology	600	

Greek History (Ancient, including Constitution) ...	400
Roman History (Ancient, including Constitution) ...	400
English History	500
General Modern History (period to be selected by candidates from list in the syllabus issued by the Commissioners, one period at least to include Indian History)	500
Logic and Mental Philosophy (Ancient and Modern) ...	400
Moral Philosophy (Ancient and Modern)	400
Political Economy and Economic History	500
Political Science (including Analytical Jurisprudence, the Early History of Institutions, and Theory of Legislation)	500
Roman Law	500
English Law. Under the head of "English Law" shall be included the following subjects—*viz.* :—(1) Law of Contract; (2) Law of Evidence; (3) Law of the Constitution; (4) Criminal Law; (5) Law of Real Property; and of these five subjects candidates shall be at liberty to offer any four but not more than four ...	500

Candidates are at liberty to name any or all of these branches of knowledge.* No subjects are obligatory.

5. The merit of the persons examined will be estimated by marks; and the number set opposite to each branch in the preceding regulation denotes the greatest number of marks that can be obtained in respect of it.

6. The marks assigned to candidates in each branch will be subject to such deduction as the Civil Service Commissioners may deem necessary in order to secure that "a candidate be allowed no credit at all for taking up a subject in which he is a mere smatterer."

7. The examination will be conducted on paper and *vivâ voce*, as may be deemed necessary.

8. The marks obtained by each candidate in respect of each of the subjects in which he shall have been examined, will be added up and the names of the several candidates who shall have obtained, after the deduction above-mentioned, a greater aggregate number of marks than any of the remaining candidates, will be set forth in order of merit, and such candidates shall be deemed to be selected candidates for the Civil Service of India, provided they appear to be in other respects duly qualified. Should any of the selected candidates become disqualified, the Secretary of State for India will determine whether the vacancy thus created shall be filled up or not. In the former case, the candidate next in order of merit, and in other respects duly qualified, shall de deemed to be a selected candidate. A candidate entitled to be deemed a selected candidate, but declining to accept the nomination as such, which may be offered to him, will be disqualified for any subsequent competition.

9. Selected candidates before proceeding to India will be on probation for one year, at the end of which time they will be examined with a view of testing their progress in the following subjects (†):—

		Marks.
Compulsory—		
1.	Indian Penal Code and Criminal Procedure Code.	500
2.	The principal Vernacular Language of the Province to which the Candidate is assigned	400
3.	The Indian Evidence Act and the Indian Contract Act	500
Optional.	[Not more than two of the following subjects, of which one must be either the Code of Civil Procedure or Hindu and Muhammadan Law.]	
1.	The Code of Civil Procedure	400
2.	Hindu and Muhammadan Law	450
‡3.	Sanskrit	400
‡4.	Arabic	400
5.	Persian	400
6.	History of British India	350

*A syllabus, defining in general terms the character of the examination in the various subjects may be obtained on application to the Secretary, Civil Service Commission.

† Instructions, shewing the extent of the Examination, will be issued to the successful candidates as soon as possible after the result of the Open Competition is declared.

‡ These subjects may not be offered by any candidate who has offered them at the open competition.

In this Examination, as in the open competition, the merit of the Candidates examined will be estimated by marks (which will be subject to deductions in the same way as the marks assigned at the open competition), and the number set opposite to each subject denotes the greatest number of marks that can be obtained in respect of it. The Examination will be conducted on paper and *vivâ voce* as may be deemed necessary. This Examination will be held at the close of the year of probation, and will be called the "*Final Examination.*"

10. The selected candidates will also be tested during their probation as to their proficiency in Riding.

11. The selected candidates, who, at the Final Examination, shall be found to have a competent knowledge of the subjects specified in Regulation 9, and who shall have satisfied the Civil Service Commissioners of eligibility in respect of nationality, age, health, character, and ability to ride, shall be certified by the said Commissioners to be entitled to be appointed to the Civil Service of India, provided they shall comply with the regulation in force at the time, for that Service.

12. Persons desirous to be admitted as candidates, must apply on forms, which may be obtained from 'The Secretary, Civil Service Commission, London, S. W.' at any time after the 1st December, in the year previous to that in which the examination is to be held. The forms must be returned so as to be received at the office of the Civil Service Commissioners on or before the 31st May (or, if that date should fall upon a Sunday or public holiday, then, on or before the first day thereafter on which their office is open), in the year in which the Examination is to be held.

COUNTESS OF DUFFERIN FUND.

Applications for the Krupabai Satthianadhan Medical Scholarship will be received by the undersigned.

RULES FOR THE KRUPABAI SATTHIANADHAN MEDICAL SCHOLARSHIP.

The scholarship called "The Krupabai Satthianadhan Medical Scholarship" is attached to the Madras Medical College.

2. The scholarship is open to women who are natives of India, other than Europeans or Eurasians, who are desirous of qualifying for the medical profession in the Apothecary or higher grades.

3. The scholarship carries a stipend of Rs. 25 *per mensem* tenable for the period of the course in which the candidate is selected.

4. In the event of a candidate being appointed after commencing her course, the scholarship will be held for the remaining period alone.

5. If, for any reason, a candidate is remanded for an extra course of training, the scholarship may be withheld for such extra period.

6. The candidate must have completed the required educational tests for the grade in which she is desirous of qualifying, and must produce satisfactory testimonials of character and certificates of health and age.

7. The candidate will be selected by the Principal of the Medical College in consultation with the Director of Public Instruction and the Surgeon-General with the Government of Madras, subject to the approval of the Dufferin Fund Committee and will be under the supervision of the latter during her course of instruction.

8. The Committee of the Countess of Dufferin Fund may reduce, suspend, or entirely withdraw a scholarship on the recommendation of the College Council, if the holder of it shows a want of zeal or ability and is likely to prove inefficient or for other reasons.

9. If a scholarship becomes vacant any time before the completion of the course, any other candidate qualified under the rules may be selected to fill the vacancy.

10. *The scholarship holder shall receive gratuitous education at the Medical College.

11. The selected candidate will be required to enter into a bond with the Dufferin Fund to re-fund the amount of stipends drawn by her if she resigns her scholarship without sufficient reason.

* This rule holds good only so long as Government continues to grant gratuitious education to female candidates.

R. T. LAWLEY, Major,
W. B. BROWNING, Surg.-Major,
Hony. Secretaries, Countess of Dufferin Fund.

Government House, Guindy,
15*th November* 1895.

GOVERNMENT EXAMINATIONS.

SUB-ASSISTANT INSPECTORS' TESTS.

The Commissioner for Government Examinations hereby notifies that the examination for regulating the appointment and subsequent promotion of Sub-Assistant Inspectors and Sub-Assistant Inspectresses of Schools prescribed in Government Notification of the 11th December 1891, No. 97, will be held on the 27th April 1896 and two following days at the centres noted below :—

Anantapur.	Cuddalore.	Mangalore.
Bellary.	Cuddapah.	Masulipatam.
Berhampur.	Guntur.	Nellore.
Calicut.	Kumbakonam.	Palamcottah.
Chicacole.	Kurnool.	Rajahmundry.
Chittoor.	Madras.	Salem.
Coimbatore.	Madura.	Trichinopoly.

2. The examination is open to the following persons :—

(i) Probationary Sub-Assistant Inspectors and Sub-Assistant Inspectresses.

(ii) Teachers, Inspecting Schoolmasters and Superintendents of Schools in the service of Government or of local bodies and teachers in recognised institutions; provided (1) that, if men, they have passed the First Examination in Arts of the Madras or other Indian University, and, if women, the Matriculation or the Upper Secondary Examination, and (2) that they are recommended by an Inspector or Inspectress of Schools or the Head of a recognized College or High School.

(iii) All others not included in clauses (i) and (ii) above, but possessing the

educational qualifications prescribed in the latter clause, provided they are specially permitted to appear for the test by the Director of Public Instruction.

3. The following is the order of time and subjects according to which the examination will be conducted :—

Day.	Hours.	Subjects.
Monday, 27th April ...	10 to 1 ...	Test A.—Grammar and Composition.
	2 to 5 ...	Test A.—Translation.
Tuesday, 28th April...	9-30 to 1-30.	Test B, Branch I.—The office and general duties of a Sub-Assistant Inspector, &c.
	2-30 to 5-30.	Test B, Branch II.—Madras Educational Rules, Government Notifications, &c.
Wednesday, 29th April	10 to 1 ...	Test B, Branch III.—The Grant-in-Aid Code the Civil Account Code, &c.
	2 to 5 ...	Test B, Branch IV.—Topography and Population, Education Statistics, &c.

4. Candidates for Test B, Branch IV, should state in their applications the Educational Division in the Topography of which they apply to be examined.

5. The fees for admission to the examination in the case of all candidates are Rs. 12 for Test A and Rs. 5 for each branch of Test B that may be brought up. The fees should be paid into a Government Treasury and the Treasury officer's receipt must accompany the application No fees will be received in this office.

6. Candidates for clerkships in the Educational Department carrying salaries of Rs. 50 and upwards will be admitted to the examination in Branch II (i), Madras Educational Rules, and in Branch III (i), Grant-in-Aid Code, on payment of a fee of Rs. 5 in each case. Such candidates will not be required to have passed the First Examination in Arts of the Madras University, but must hold or be eligible to hold under article 2 of the Public Service Notification, "superior" appointments carrying a salary of Rs. 15 per mensem or upwards in the public service.

7. All applications should be sent direct to this office to the undersigned, post-paid, superscribed and addressed as follows :—

(Application for admission to the Sub-Assistant Inspectors' Tests.)

To

The Secretary to the Commissioner for Government Examinations,
Madras,

and should be despatched so as to reach the Commissioner's Office not later than the 29th February. A candidate wishing to know that his application has been received should enclose a postcard addressed to himself with his application. Covers insufficiently stamped will not be received.

Printed forms of application may be had at this office.

8. The fee paid can in no case whatsoever be refunded.

9. Any candidate suspected of having had recourse to malpratice of any kind is liable to have his examination invalidated and also to be debarred from appearing again for any of the examinations under the control of the Commissioner for such term of years as the Commissioner may think fit; or, if the Commissioner is not satisfied as to the trustworthiness of his results, he may be required to undergo a re-examination in any one or more of the subjects of the examination for which he appeared.

Office of the Comr. for Govt. Examinations, MADRAS, 11*th January* 1896.

E. H. ELLIOT, *Secretary.*

NOTIFICATIONS BY GOVERNMENT.

LEAVE.

Mr. E. P. Metcalfe, Principal, Rajahmundry College, furlough from or after the 25th March 1896 to the 7th March 1897 inclusive, under article 340 (*b*) of the Civil Service Regulations.

J. F. PRICE, *Chief Secretary.*

The Director of Public Instruction makes the following appointments in the Sub-Assistant Inspectorate :—

M. R. Ry. T. S. Lakshiminarayana Aiyar to be Ag. Sub-Assistant Inspector of Schools, Palghat Range.

,, S. R. Venkatarama Aiyar, B.A., L.T , to be Ag. Sub-Assistant Inspector of Schools, Pollachi Range, in the probationary class. To join as soon as possible.

,, S. Soundararaja Aiyangar to be Sub-Assistant Inspector of Girls' Schools, Third Range. To join immediately, delivering charge to his clerk.

,, K. R. Duraiswami Aiyar to be Sub-Assistant Inspector of Schools, Chingleput Range. To join immediately on relief.

,, L. A. Ganapathi Aiyar, B.A., to be Ag. Sub-Assistant Inspector of Girls' Schools, Fifth Range, in the 3rd Class. To join on the 25th instant.

The following transfers of Sub-Assistants are ordered :—

(1) M. R. Ry. M. Singaravalu Mudliar, B.A., Sub-Assistant Inspector of Schools, Chidambaram Range, to Cuddalore Range. To join on relief.

(2) ,, P. Krishnamachari, Sub-Assistant Inspector of Girls' Schools, Fifth Range, (on leave) to Chidambaram Range. To join on the expiry of his leave.

(3) ,, T. Rajahgopal Aiyangar, M.A., Sub-Assistant Inspector of Schools, Tanjore Range, to Kombakonam Range. To join, handing over charge to his clerk.

(4) ,, C. S. Swami Aiyangar, B.A., Sub-Inspector of Schools, Kumbakonam Range, to Trichinopoly Range. To join on relief by No. (3).

(5) ,, S. Gopala Aiyar, Sub-Assistant Inspector of Schools, Trichinopoly Range, to Tanjore Range. To join on relief by No. (4.)

Office of the Director of Public Instruction, MADRAS, 21*st December* 1895.

D. DUNCAN, *Director of Public Instruction.*